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ARMY RESERVE MAGAZINE

FALL 1979

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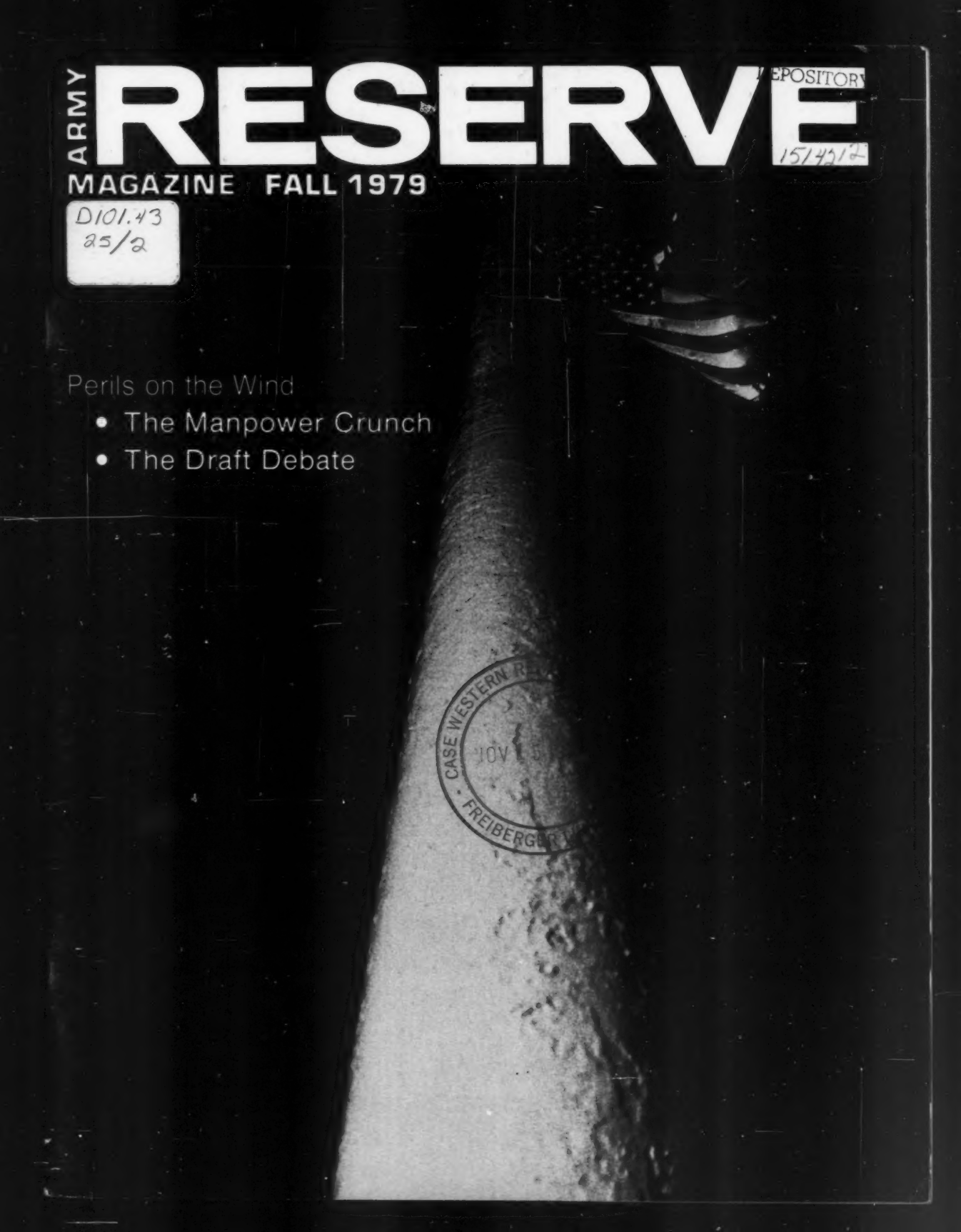

Perils on the Wind

- The Manpower Crunch
- The Draft Debate

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BRIEFS

• USAR unit members may now use the theaters at Army posts on the same basis that they use the Post Exchange. A new change to AR 60-20, Army and Air Force Exchange Service — Operating Policies, made the Reserve movie-going possible. The change gives the Reservist who drills one weekend each month the use of the theater two days per month. Dependents may accompany.

• Army Health Services Command has a number of Mobilization Designee vacancies for Reserve officers. Captains in specialties 46A, 67E, 67F, 67K and 68N; majors with specialties 60C, 60W5K, 66A, 67F, 68F; lieutenant colonels with specialties 60D, 60W, 66A, 64A, 68G; and colonels with specialties 61F, 66A, 63R, 64B and 65 are required. Submit applications on DA Form 2976 through Commander, RCPAC, ATTN: AGUZ-OES, 9700 Page Blvd., St. Louis, MO 63132, to Commander, Health Services Command, ATTN: HSPE-MO, Fort Sam Houston, TX 78234. Ms. Christie or Master Sgt. Rudisill are the points of contact at Fort Sam, at Autovon 471-6730, commercial (512) 221-6730.

• Officer job specialties will no longer be identified as "primary" and "alternate." DA oficials say that the terms are being dropped because they imply a difference in importance of the specialties. Officers are expected to become equally qualified in two specialties. Officers enter the Army with one specialty and pick up another one during their careers.

• Officers and senior NCOs no longer have to present ID cards when cashing checks in post exchanges, if they are in uniform. Included are commissioned officers, warrant officers and NCOs in grades E-7 and above.

• "How much will I get when I retire?" It's a tough question that few USAR commanders are able to answer. Computing retirement points, and figuring point value and the like are tough chores. The Retired Officers' Association, 201 N. Washington Street, Alexandria, VA 22314 has a booklet in print which gets into all the details of Reserve retirement entitlements. The booklet, "Reserve Retirement Benefits," is free for the asking.

• Survivors of Reservists who die while on Active Duty, Active Duty for Training, or Inactive Duty Training are eligible for a death gratuity of up to $3,000 in addition to the Servicemens' Group Life Insurance benefits. The gratuity is also payable if the soldier dies of a service-connected cause within 120 days after discharge or release from active duty for training. The payment equals six times the monthly basic pay, plus special and incentive pays — but not allowances — at the time of death. The amount may not be less than $800 or more than $3,000. The payment is made as soon as possible after death occurs. Surviving spouses, children or other designees are eligible.

• The Army's sports, recreation and good times operation has changed its name again. What was "Special Services," and more recently "Recreation Services," is now "Morale Support Activities." Many Army posts now allow Reservists to use local Morale Support Activities, which include sports facilities, arts and crafts centers, auto shops, music and theater, and libraries. Check nearby posts for local policy.

• The Army Surgeon General wants to hear from all USAR members who are psychologists, regardless of whether psychology is the member's military specialty. Please write to DASG-PSC-H, Washington, DC 20310.

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MISSING ISSUES: For the past 2 years the publication of this magazine has been sporadic. In 1977, three issues were published: Jan-Feb, Mar-Apr, May-June-July-August. In 1978, three more issues appeared: Mar-Apr, May-Jun, Jul-Aug. In 1979 an undated Vol. XXV No. 1 was published prior to this issue.

COVERS: The Army Reserve manpower problem is a problem indeed; a lot is going on to remedy the situation. One solution finding some support in the Congress, but not in the White House, is a return to some sort of registration or draft system. The overall manpower crunch, and the draft debate are "perils on the wind," discussed in detail in our new ISSUES department, beginning on page 12. And about that sand dragster bearing USAR colors. It belongs to Rex Zollinger, sand racer of West Coast note. Read about him and his machine on page 26.

CONTRIBUTING: Among a number of other changes, you'll note the appearance of more by-lines and photo credits than has been the case in the past. We feel credit ought to appear by the creditable work, instead of in the fine print.

ARMY RESERVE MAGAZINE is published quarterly by the Chief, Army Reserve, ATTN: DAAR-PA, Washington, DC 20310, in accordance with Section 278, Title 10 USC, and AR 140-370. Opinions expressed are neither official policy, nor are they directives. FUNDS for printing have been approved by HQDA, 28 Feb. 1979. DIRECT COMMUNICATION WITH THE EDITOR is authorized, in care of the address above. PHOTOS are official unless otherwise noted. LOCAL REPRODUCTION of all materials is approved, less that which is marked as copyrighted. ARTICLES ARE SOLICITED, as are story ideas and photo layouts. EDITORIAL OFFICES are located in The Pentagon, Room 3E379. Phone (202) 697-2470, Autovon 227-2470.

POSTMASTERS: Controlled Circulation Rate postage paid at Louisville, KY 40218. Department of the Army, DOD 314. RETURN FORM 3579 to Commander, RCPAC, 9700 Page Blvd., St. Louis, MO 63132.

The "people's car" and family car disguised

PEOPLE

They can't hide on a highway, but **Spec. 4's Mahlon Tucker** and **William Eckelman** went to great lengths to keep their chariots chic a la Army camouflage. "I just sort of liked the looks, and my car needed paint," said Tucker, a General Motors employee and an MP with the 300th Military Police Command in Livonia, Mich. "Besides, it gives me a chance to talk to people about the Reserve," he concluded, pointing out the paint job to his company commander, **Capt. John Pringle.** "It's like one of those things you always dreamed about doing, something you wanted to do even if it didn't make any sense," according to Eckelman, who painted his '67 Volkswagen — with his wife's reluctant approval — on their wedding anniversary. A state trooper and an MP with the 414th Civil Affairs Co. at Elihu Root USAR Center in Utica, N.Y., Eckelman had been helping the motor pool camouflage the unit's jeeps and trucks when he decided to use his newly acquired skills to give his "love bug" a facelift. Normally the motor pool uses overlay diagrams as a guide for painting Army vehicles, but Eckelman said he couldn't find one for a Volkswagen — so he did it freehand. "The paint store matched the colors perfectly," he said.

Few women have maxed the Army's PT test. However, **Spec. 4 Marcia Jones,** of the 80th Division Maneuver Command in Richmond, Va., has reached the elusive 500 twice, and the last time out she scored 485.

Marcia is fast enough, that her husband **Ernest,** a specialist 5 with the 80th, runs against her in the half-mile event to provide competition.

"It's amazing," **Spec. 5 Valerie Jo Sarinopolous** remarked elatedly as she set aside her M-14 rifle during a practice session at Camp Bullis, Tex. "I never dreamed I would progress so quickly," she added, prior to her departure for last May's U.S. Army Championship Matches at Fort Benning, Ga. The first woman selected for a Fifth Army Reserve rifle team competing in the all-Army matches, Valerie previously blasted her way to the Army Forces Command Central Region Matches at Fort Riley, Kan., earning a niche on the Fifth Army team as a result of her combat rifle match aggregate of 534 out of a possible 750. Valerie is a member of the 424th Personnel Service Co. in Livonia, Mich. As a civilian, she has been a uniformed cop for five-and-a-half years. But this pistol-packing woman has only been firing rifles since last October.

Jones: perfect score, not once, but twice

Sarinopolous blasts her ways to Fort Benning.

Lt. Ron Carter in uniform

Take a look at **2d Lt. Ron Carter,** Finance Corps, USAR. He's the one modeling the new abbreviated winter uniform, authorized for off-duty wear by Reservists who are also members of the NBA's Los Angeles Lakers. Lt. Carter is heading into his second season with the L.A. roundballers, and has just returned from the Finance Officers Basic Course at Fort Benjamin Harrison, Ind. A 1978 graduate of Virginia Military Institute, where he made District IIIB All-American two years running, Ron wore out the VMI record keepers. During his years at the institute, he set the school's all-time career scoring record; had the most career field goals, free throws, points in a season, points in a single game, and free throws in a single game. He had the best season scoring average, too. Enough was enough, said VMI, which retired his jersey — the first cadet so honored in the long history of the institute.

"Fang and Chang" foil the felon during one of their frequent workouts

PEOPLE

"I have one of the few jobs where you can bring your dog to work," according to **Spec. 5 Frank Chang** of the 304th Public Affairs Detachment in Seattle, Wash. "What better way is there to mix work with pleasure?" Chang and his purebred German Shepherd, **No-Doze,** pictured here placing his fangs into a well-padded opponent, are on call 24 hours a day for the Port of Seattle Police Dept. Chang is the department's first dog handler, and No-Doze is a "bomb dog," the product of a joint venture between the Army and the Air Force. "Chang and Fang" were teamed up through the efforts of the Law Enforcement Assistance and Federal Aviation Administrations in a program that has placed highly trained "explosive detection canines" in 30 U.S. cities, curbing aircraft and airport bombings and hijackings. "Most types of explosives contain a common chemical compound which has a very distinct odor and is difficult to mask," Chang said. "We were taught how to coax the dogs into searching for that distinct odor."

Last winter a man walked into the Country Club Plaza's Country Club Bank in Kansas City and handed the teller a note: "bank robber." The teller filled a brown bag with several thousand dollars, quietly set off an alarm, and watched the crook take the money and run. Shortly afterward, Reserve **Staff Sgt. Henry Wells** of the Kansas City-based 102d Military Police Command — and a guard at the unfortunate bank — spotted the bandit in a building entrance about a block from the bank. He caught the robber red-handed, recovered the stolen cash and cornered him until police arrived. It wasn't the first hero's service for Wells; while with the 1st Cavalry Division in Vietnam he lived under the gun, which earned him the Combat Infantry Badge and Air Medal more than 10 years ago.

Staff Sgt. Wells: bank robber catcher

LETTERS

Who's That in Uniform?
Sir: Enjoy the magazine immensely. Very informative. In the most recent issue, Volume XXV, Number 1, who is the pretty lady modeling the legal and illegal outfits (pages 7 and 8)? Someone that pretty should get some credit.

Capt. Jack Koss

The lady is Lynn Wood. She works in the News Media Branch of the Public Affairs Office at the U.S. Military Academy, West Point. She also models.

Spooks in Space
Sir: Just for curiosity's sake, I would suggest someone check out ABC-TV's Sunday night show, "Battlestar Galactica." The collar insignia worn by the officers of the *Galactica* bears a striking resemblance to Military Intelligence brass. Perhaps the Pentagon has future plans for my branch. Enjoy your magazine.

Capt. James Bogle
Columbia, S. C.

The Pentagon indeed has plans for wearers of MI brass. ABC does not. Since you wrote us, Galactica has been decommissioned by network edict. One criticism leveled against the show was that it was "fascist," with the military always depicted as brave and intelligent, while the civilian authorities were presented as weak and stupid.

USAR Helps Active
Sir: I read with great interest the article "Staging Horror Shows Is Just Good Medical Training," (ARM, Vol. 25 No. 1) and enjoyed your commentary of the ARTEP concept of training and evaluation; however, you failed to recognize a great deal of expertise available for external evaluations. Men and women of the Army Reserve's Maneuver Training Commands perform these tasks on a part-time basis anywhere in the United States and at overseas locations. These members of the Total Army, including vets of World War II, Korea and Vietnam are skilled and knowledgeable people. Many are former unit commanders, or senior NCOs of companies and battalions. Most of my unit's (91st MTC, Camp Parks, Calif.) customers are Reserve and Guard units in the five western states, but we have the capability to provide the same service to the Active Army.

Col. James R. Baker
Santa Cruz, Calif.

Only a few Reserve members, and even fewer Active folks, have a feel for how often USAR elements support the Active side. Army Reserve Magazine plans to publicize instances of the USAR helping out the Active Army, whenever we get a good story. Hope that you and our readers will give us some good stories to promote.

Hands On!
Sir: I just read your article entitled "Now a Chance to Pin on Bars and Leaves," and I believe in the program wholeheartedly. The only problem I have experienced is in the training aspect of being an infantry officer. I am an active duty specialist 6, a paralegal/legal clerk and have had a hard time grasping infantry jargon. In my opinion, infantry tactics and equipment should have a "hands on" type training. I am nearing the completion of my officer basic course via correspondence and I feel totally inadequate in effectively handling infantry weapons and equipment. Our local Reserve units in San Francisco have the facilities for the advance course (branch immaterial) but little, if any, "hands on" work. Being a dual status soldier has its drawbacks. I have no knowledge of what training may be offered. Attendance at an infantry course would help. Please advise.

1st. Lt. John A. Burton
Presidio of San Francisco

The "hands on" training you seek is available through the active duty for training phases of the officer advance course offered through your local USAR school. Check with the office of the Commandant, 6227th USAR School, right there at the Presidio. The contact is Ms. Dominik, local number 561-4377. Additional information can be had from Commander, U.S. Army Reserve Components Personnel and Administration Center, ATTN: AGUZ-RCC, 9700 Page Blvd., St. Louis, MO 63132.

Retiree Seeks Mag
Sir: After joining the Reserve nearly 30 years ago, this weekend I saw my first copy of the *Army Reserve Magazine*. It was a job well done, and I would like for my name to be placed on the mailing list.

Capt. Thomas M. Newton
USAR, Retired
Temple, Texas

We are glad to place retired Reservists on the magazine's VIP mailing list.

A Sermon on the Mount
Sir: Re: page 11, Volume 25 Number 1. Apparently *Army Reserve Magazine* doesn't know the difference between a military unit and a hill outside Jerusalem. A Calvary Fighting Vehicle?

Gordon Kilpatrick
Cleveland, Ga.

Army Reserve Magazine promises never to commit that sin again.

What's Going On at Army Reserve Magazine?

All sorts of things

Army Reserve Magazine has had its problems of late. Once upon a time, the magazine was published 10 times each year. Staff cutbacks forced us to drop to bi-monthly; staff turbulence has made even that schedule impossible to keep. Things were so grim in recent months, that it looked as if the magazine might fold, or be merged out of existence.

To save the magazine as the Army Reserve's own, we've made some changes. The changes begin with this issue, and they reflect a lot of work and a lot of heartache on the part of the staffs of the Office, Chief Army Reserve, and the Office of the Chief of Public Affairs, HQDA.

To begin, *Army Reserve Magazine* is now a quarterly. We believe the small (two person) full-time staff we are now authorized will be able to handle that schedule. There has also been a change of theme designed to make the magazine more relevant to its readers, and more reflective of its redefined mission.

Another major change involves SOLDIERS magazine, the Army's official monthly. Already available to USAR unit members, SOLDIERS will begin going to the homes of every Individual Ready Reservist and Standby Reservist, by mail, four times a year. These quarterly SOLDIERS issues will contain a heavy Reserve and Reserve-relevant content, in addition to the magazine's regular emphasis on active duty doings. The special Reserve-heavy SOLDIERS will come during months when *Army Reserve Magazine* is not published.

The Army Reserve is, more than ever before, an essential part of the Total Army. The expanded scope and distribution of SOLDIERS reflect that fact.

But the Reserve is still an interesting and unique element of the Total Army . . . it is a special group of folks who deserve their *own* magazine, as well. The continued vitality of *Army Reserve Magazine*, and our new theme, reflect that fact.

Non-traditional skill: learning to cope with Army cosmetics.

Following The Footsteps Of Vocational Revolt

Army women aren't pigeonholed into secretarial or medical slots. And with the exception of the hard combat skills, more enlisted women are turning up in more places than ever before.

In the Army Reserve, about one-third of the 19,000 enlisted women are serving in what are considered less traditonal and non-traditional skills, according to personnel statistics.

In the Active Army, less than half of the 50,000 enlisted women are serving in traditional administrative and medical occupations. About 25 percent have shifted toward less traditional skills like law enforcement and supply. And roughly 30 percent are taking up occupations formerly dominated by men, like field artillery, engineering and mechanical maintenance.

WASPs Win War For Vet Status, Or: It Pays To Be Persistent

More than 1,000 of them flew 60 million miles in every airplane in America's World War II arsenal, from the P-51 Mustang fighter to the B-29 Superfortress, and 38 of them died doing it. They ferried thousands of airplanes to coastal ports for shipment to war theaters. They test-piloted airplanes for Army Air Force cadets and towed targets for untrained flak gunners. And they flew longer hours with a lower accident rate than male non-combat pilots.

They were the Women's Airforce Service Pilots, an unlikely squadron of Park Avenue debutantes, actresses, doctors, housewives and corporate heiresses who recently won a 33-year fight with Congress for veterans status. WASPs were previously denied veterans benefits because they were actually provisional civil service employees — legal means did not exist in 1942 to enlist or commission women as military pilots.

But authority for issuing discharge certificates was finally announced last March by the Air Force when WASP service was recognized as equivalent to active military service under all laws administered by the Veterans Administration. Lillian Connor Roberts, president of the WASP veterans organization, received the first WASP honorable discharge in May. She was 63.

"I know that the change in mental attitude in this nation concerning women had to have been of great help to us," said Roberts, "and I understand we have been of some help to them in that we were always available to be presented as a horrible example, of which we certainly were one, since all the unpleasant things that happened to us, unfortunately, just because we were women."

The WASPs became the focal point of a hot political debate, in the Army and in Congress, about women doing men's jobs during the World War II era. Women encountered routine obstacles on their way to flight certification. Women had to have 500 hours flying experience — men needed 200. Women had to have a high school diploma — men did not. Some base commanders did not allow WASPs to be first pilots. And, according to WASP biographer Sally Keil, WASPs were certified to fly aircraft before receiving sufficient training — to increase their recorded accident rates.

But the controversial path blazed by WASPs cleared the way for the 47,000 women now serving in the Air Force. "I wasn't a feminist," said a WASP B-17 pilot 25 years after her war experience. "I just wanted to fly."

Will The Vets Come Back If The Balloon Goes Up?

Up to 100,000 Army veterans could be recalled to serve as fillers or replacements, in the event of a full mobilization to fight a major conventional war, if legislation currently being developed in DoD is passed by Congress.

Under the DoD proposal, veterans under 30 who were trained for combat, but who have never served in a combat zone, would be called back to duty in a national emergency. This approach would exempt most Vietnam veterans.

This "emergency Reserve" would primarily involve those trained in infantry, artillery, armor, combat engineering and medical specialties.

The XM1: the first all-new American tank in 30 years should be the equal or better of any fielded in the world.

These Soviet tankers are not looking forward to the XM1's arrival.

On Getting There Fastest With The World's Bestest

Production of the Army's new main battle tank, the XM1, got underway in May, following approval of the Army's first year production buy of 110 tanks.

The tanks are scheduled to roll off the Army assembly lines beginning in February 1980. Chrysler Corporation operates the Army's tank assembly plant at Lima, Ohio. Starting in March 1982, the Detroit Army Tank Plant, also operated by Chrysler, will start producing XM1s, too.

Dr. Percy A. Pierre, the Assistant Secretary of the Army (Research, Development and Acquisition), said that the start of production marked an exciting day for the U.S. Army. He noted that it has been at least 30 years since production was begun on an all-new tank.

The initial operational objective for the XM1 is for 7,058 tanks, with the last going into service by 1988. The first year's production schedule calls for an average production of 10 tanks a month. The plan calls for the second year of production to yield an average of 30 tanks a month, though that schedule may be slipped somewhat.

"We will slow production only to make this a reliable tank," Dr. Pierre said. "We would hope to remain on the original schedule."

Some reliability problems have surfaced on test XM1s, gliches which are being worked on now, and which will be corrected in production models. Production tanks will be monitored closely, and additional testing will be evaluated this November and early next year.

The first XM1s will mount a 105mm tank gun. Later on, perhaps by 1985, a German 120mm gun will be fitted. The United States recently signed a licensing agreement to produce the German 120mm design in this country.

The new tank, with its fast acceleration, its turbine engine, an advanced armor design, and an advanced night vision systems, should be the equal or better of any tank that is now fielded in the world, according to Dr. Pierre.

The first production model XM1s will be delivered to Fort Hood, Tex., for operational testing and to the service schools for troop training. The full production and decision to deploy the tank to other tank units is scheduled to follow.

Armored Carrier Conversion: What A Pip Of An APC

The M113A2 personnel carrier is a lightly armored, full-tracked combat vehicle which provides for the protected transportation of troops or cargo in combat. Improvements in the vehicle's suspension and cooling systems make the M113A2 faster and more reliable than its predecessors. The 'Pip'ed APC is the latest refinement in the M113 family of vehicles which has been serving worldwide for 20 years.

The product-improved or "PiP"ed M-113 armored personnel carrier has recently passed all of its field tests and was scheduled to enter production about the time *Army Reserve Magazine* went to press.

The M-113A1 armored personnel carrier, affectionately known as the APC has been such a good performer over the course of its life that the "PiP" is the first major change in the carrier's design since the entire family of carriers was converted from gas to diesel power in 1965.

Since the Army's new Infantry Fighting Vehicle is not scheduled to replace all the armored personnel carriers currently in the Army inventory, there are plans to Pipify all of the Army's remaining 5,300 gas-powered M-113s, produced from 1960 to 1965, as well as convert some 18,000 other M-113s still in the Army inventory.

The Pip modifications reflect battlefield and automotive engineering ideas of the 1970s.

Pip design changes also include redesigned shocks and torsion bars to increase mobility and crew comfort. A redesigned engine cooling system is also part of the Pip, because most M-113A1 engine failures result from overheating.

Since most of the M-113s and their derivations will be around into the 1990s, it seems appropriate that someone finally got down to the serious business of giving the M-113 a proper nickname. How about "Pip"?

Red River Energy R&D

The Army may be going back to the old idea of digging a hole and then filling it in. But this time, the diggers and fillers will not be troops keeping busy on a slow training day. Instead, they will be energy experts at the Red River Army Depot/Long Star Army Ammunition plant in Texarkana, Tex. The energy folks are seeking to save fuel by partially burying entire buildings in the ground.

The process is called 'terratecture." It is the concept of partially or completely burying buildings to take advantage of the relative constant temperature of the surrounding soil. A building sited in this more stable environment may be easier and cheaper to heat or cool than one baking in a summer sun, or chilling in a winter wind, but also more costly to build.

Two buildings at the post are being considered for terratecture — the plant's headquarters building and the depot's computer facility.

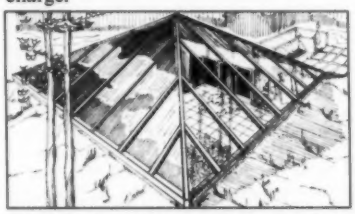
In cooperation with the Department of Energy, the Army has designated the Red River/Lone Star Complex as its "energy showcase." The terratecture project is but one of a number of experimental demonstrations planned for the post.

Another old idea with a new name, to be studied there, deals with modern-day use of the cave man's basic energy source — the wood fire. Gathering fire wood and setting it alight, these days, goes by the elegant new term "biomass."

In the Texas biomass project, wood scrap will be collected for fuel in local heating plants. The biomass project also will study ways to increase wood production, by finding out which types of trees provide the best fuel, and which can be grown where.

Another Red River/Lone Star demonstration project will see the construction of five utility vans and staff cars powered by electricity. Production of gasohol, the 90 percent gasoline-10 percent alcohol mix being tried as a gasoline-saving alternative, will also be studied.

The demonstration projects are being jointly funded by the Army and the Department of Energy. The Army Corps of Engineers will be in charge.



'Terratecture': underground housing counters sky-high fuel bills.

No Unions

The debate about military unions is over; at least it is in the halls of Congress and in the White House. During the last days of the 95th Congress, legislation was passed banning military unions. The President signed the bill into law, as it became Public Law 95-610.

Unions which attempt to organize soldiers into a military union face a fine of between $25,000 to $250,000; military personnel who join a military labor organization face up to five years imprisonment and a $10,000 fine.

The new public law now brings the prohibition against military unions under the Federal criminal statutes; previously, the ban existed in military regulations only.

What's In It For Me?

Soyburgers. Who are they? What do they want?

Soldiers have been seeing more and more of them since the 20 percent soy-extended burgers landed in Army mess halls last June. But they have nothing to fear but fear itself, according to Defense Department officials.

They say using soy protein will save about 22 cents per pound of ground beef, helping to offset space-age beef prices by $6.2 million without

lessening the nutritional value of the food. DoD buys about 28 million pounds of ground beef yearly, but will cut its beef purchases by about 25 percent, using the savings to provide less expensive menu items like poultry and pork — and soyburgers, at least on an experimental basis.

What are soyburgers like? "Opinions vary," according to Shirley Conklin, senior home economist at the U.S. Air Force Service Center in Philadelphia, one of 14 Air Force bases scheduled for a soyburger invasion sometime this month. "You have to take account of different tastes."

You have to take account of Army chefs, too, who swept the National Restaurant Association's Annual Salon and Exhibition in Chicago last May. In cooking competition against the finest chefs from the Nation's leading hotels and restaurants, the Army Culinary Arts team captured the show's grand prize along with 23 other first prizes.

The Continuing Saga... Of Brand New Female Enlistment Requirements

You probably won't find her in a foxhole, but chances are you'll see her more often: more and more women will be able to enlist in both Active and Reserve components under a new set of eligibility requirements.

Starting October 1, women who are not high school graduates may apply for enlistment if they score 31 or higher on the selection test. Even some high school grads scoring less than that may be eligible to apply, but only 10 percent will be accepted. Men live with the same standards.

In addition, the Army will test a new system for selecting non-high school grads most likely to complete their first six months of service.

The Reserve formerly accepted only women who had earned a high school diploma or a passing score on the General Educational Development test. The Active Army okayed qualified high school grads, only. And, according to Army officials, standards for women have been higher in the past because of a policy excluding them from combat situations.

The new policy is intended to provide men and women an equal opportunity to enlist.

WACs Furl The Flag: Ending An Old Era To Usher In A New Age Of Changing Roles

The changing role of women in the Army was apparent in a springtime ceremony at Fort McClellan, Ala., the post once termed "The WAC Shack," unofficially but universally throughout the Army. There, Major General Mildred Clarke, post commander and last director of the Women's Army Corps, furled the Corps' flag for the final time. The ceremony ritualized the disestablishment of the Corps; an action decreed by Congress on Oct. 20, 1978.

The WAC story began in 1942, when Congress chartered the Women's Army Auxiliary Corps (WAAC). The name and acronym were shortened a year later.

World War II WACs served nearly everywhere that male soldiers went, including North Africa, Italy, Egypt, China-Burma-India, Australia and in the South Pacific. WACs hit the beaches at Normandy a few weeks after their male counterparts, and served throughout the European phase of the conflict.

Fort McClellan became the WAC training center in 1954. It now houses the Military Police School. Some distinctive female training remains, though, including the resident portion of basic training for women who enlist in the Army Reserve's Civilian Acquired Skills Program.

The Corps lasted for 36 years, a period Maj. Gen. Clarke termed ". . . a heritage of service, dedication and devotion to country, second to none. It is a record that will do much to sustain our future women officers and soldiers."

The Corps flag is on exhibit at Fort McClellan's WAC museum.

Above: World War II WACs prepare for the worst during training exercises at Daytona Beach, Fla. Taps at Fort McClellan, left, Maj. Gen. Mildred Clarke presiding: It's Boot Hill for the WAC banner.

New Officer Education Plan: Promotion Musts To Change?

The Army recently decided to kick off a new training course for would-be company commanders. But, there is a great deal more to it than that. This seemingly minor change in the way the Army trains its junior officers is but the thin edge of the wedge. In fact, big changes in the military education system are being considered for the Army officer of the '80s and '90s.

The decision to implement the new company commanders course in FY 84 is one of the specific actions approved so far in a comprehensive series of recommendations that could create a broad new officer education system that is considerably different from that which exists today.

Changed, under the new concept, would be the long standing pattern of Army schooling that wound its way from basic branch course to career course to staff college to senior service college.

The changes will apply to both Active and Reserve officers and, when on line, will alter some of the "must have" educational requirements for promotion for Reservists.

Even the ways in which Army officers earn their commissions may change, following the testing of a number of on- and off-campus alternatives to the current Reserve Officers Training Corps program.

Basic branch training for new lieutenants could change. The new company commanders course, and new specialty career field functional courses, could possibly replace existing branch advanced courses. Reserve officers preparing for promotion to the field grades will be introduced to a new Combined Arms and Services Staff School.

These anticipated changes are sweeping, but they would be gradually phased in throughout the '80s. The long, 10-year transition is designed to follow a careful, step-by-step analysis of what officers do, what training they need, who should train them, and when they should be trained. This review, termed by the DA planners "officer job task analysis" will be the key that provides the data base for decisions to proceed with each part of the new training cycles.

The 10-year transition period also reflects the battle of the bucks. New programs require new and redirected funding, and preparation of Army budgets require long lead times. But, once in business, the new education methods may save the taxpayers some money. DA anticipates dollar savings may show up as soon as 1985.

ROTC Alternatives

The Army is looking at alternatives to the traditional four-year ROTC curriculum. An office is being established to develop required legislation and propose money sources to test a number of new ways for a cadet to earn a second lieutenant's bar.

These include a two-year ROTC with a single eight-week summer camp scheduled between the junior and senior years; another possibility is a course similar to the Marine Corps Platoon Leaders Course, with 16 weeks of training spread out over two summer training sessions; another idea is a college graduate officer candidate school, which will offer no military training until after the sheepskin is in hand. Each of the alternatives will require the cadet to enter a contract status with the Army, and each will offer a chance to compete for a two-year scholarship.

Need To Know

What does an officer need to know? The recommended education system is going to try to define those needs by establishing professional competence criteria. Called Military Qualification Standards (MQS), these will codify what an officer needs to know during the first years of his or her career. Three levels of MQS are planned: MQS I will be the standards an officer cadet must master before commissioning; MQS II are those learned at the basic course and during the first three years of service; MQS III carries the "need to know, need to do" criteria up through the 10th year of service.

School Changes Ahead

Both the basic and advanced branch courses may be changed significantly. First, both will be evaluated by Army trainers, applying the new officer job task analysis procedures.

If the recommendations of the DA study group which first proposed training and education changes are followed through, the new officer basic course will be longer than it has been in the past. The DA study group felt that additional time was needed, in the basic course, to prepare the new officer for tackling his or her first assignment.

The DA group also recommended a major reshaping of the advanced or career branch courses. Some skill training from existing career courses would be bumped down to the lengthened basic course, while some would go to the new company commanders course.

Other elements of the advance course may go to new, short term, specialty courses targeted at specific skill areas. Still other former advanced course matter may find its way into the new *Combined Arms and Services Staff School,* CAS^3 ("cass cube," for short).

CAS³

CAS³ is probably the most significant element of the proposed educational changes. This nine-week school will give all officers selected for promotion to major the opportunity to take intensive, staff-oriented training. At present, only a relatively small percentage of prospective majors in the Active Army get a chance to take staff training, through the Command and General Staff College course. Completion of C&GS is now tied to Reserve Components officers promotion to lieutenant colonel and colonel. CAS³ will provide training that reflects the fact that *nearly all* field grade officers spend most of their careers in staff assignments.

The about-to-be majors won't just waltz in to CAS³. Prior to attending the course, an officer will have to take a 120-hour, Pre-CAS³ correspondence course, and a written exam. The new Pre-CAS³/CAS³ combination will figure in Reserve Component selection for battalion command, staff college, senior service college and promotion.

But What of C&GS?

The Army plans to continue the U.S. Army Command and General Staff College, selecting majors and promotable captains to attend. One result of the introduction of the new CAS³ schooling may be to make attendance at C&GS more selective for both the Active and Reserve Components than it is at present.

What About Reserve Promotion?

The new education system changes the ground rules for promotion. At present, an Army Reserve officer needs to have passed the branch advanced course to be eligible for promotion to major. But under the new system, the officer will need to pass the Pre-CAS³ correspondence course, and test, instead.

Before going on to the grades of lieutenant colonel and colonel, the Reserve officer will need the entire CAS³ course. No more will Command and General Staff College be required for promotion, but "It will still be an important indicator of an officer's potential," according to an officer on the education planning staff at DA.

The Army anticipates that Reservists will be able to take CAS³ much as they now tackle Command and General Staff College. Eventually, resident and non-resident options should be available for Reservists to complete, but those details remain to be worked out.

Whose Idea Was This?

Many of the elements of the new education plan flowed from a blue ribbon DA study group. The panel, charged with the Review of Education and Training for Officers (RETO), began their work in 1977. The group included Active and Reserve Component officers. Thousands more were surveyed as the study progressed.

What Happens When?

Few exact dates have been nailed down yet. Changes will not sneak up on the officer corps, however. The Army is preparing a detailed information plan, designed to keep everyone informed as the program phase-in gets moving.

Army Reserve Magazine will be one of the media used to get the word out.

New SBP Rules

Families of eligible Reservists who died after Oct. 1, 1978, before choosing an option under the Reserve Components Survivor Benefit Plan (Public Law 95-397) may now be eligible for an annuity, according to recently announced guidance from the Office of the Secretary of Defense.

Because of the delay in implementing the program, DoD officials believe that a number of eligible Reservists may have died before getting a chance to participate. For this reason, the Secretary of Defense has ruled that their survivors are qualified to receive an annuity under the plan.

Survivors are eligible if the Reservist:

— was eligible to participate in the Survivor Benefit Plan on or after Oct. 1, 1978.

— died on or after Oct. 1, 1978.

— did not get a chance to elect an SBP option.

— did not execute a statement of intent to participate under the deferred annuity plan and

— did not already decline to participate.

This annuity is available to the late Reservist's spouse or children under 18 (under 23 if they are students) if the spouse is also dead. Survivors have the option of receiving a reduced annuity immediately or waiting until the 60th anniversary of the deceased member's birth for full payment.

If the eligible Reservist executed a statement of intent before passing away, the annuity will be awarded under terms of that intent.

Those who believe they may be eligible for an annuity should contact the Commander, U.S. Army Reserve Components Personnel and Administration Center, ATTN: AGUZ-RAS, 9700 Page Boulevard, St. Louis, MO 63132.

Army Reserve Magazine has a lengthy explanation of the ins and outs of SPB, available for the asking. Write us for your free copy.

Looking Sharp

A word on "proper appearance" in the pages of *Army Reserve Magazine.*

We hear from lots of folks — after each issue — who are sharp detectives. Some of the best of the sleuths are those who catch us running photos of soldiers whose uniforms or haircuts fall below the standards.

Army Reserve Magazine is not in business to promote substandard appearance. Far from it. Scruffy soldiers, Reserve or Active, do themselves and the Army no good.

Ours, however, is a news magazine, covering soldiers as they actually appear. It is inevitable that, in busy training or operations, somebody is bound to appear looking less than fit for a dress parade.

Army Reserve Magazine will make every effort to comb out photos of soldiers with uniform and appearance problems. We always have. We always will.

But we hope that the detectives will understand if a good, newsworthy photo occasionally shows up with something in it that shouldn't be there.

MANPOWER

The Needs Are There But The Numbers Aren't

The strength of the Army Reserve finally appears to be on the upswing. A dip in fiscal year 1978 took the paid drill strength down to a low of 184,703 in December. Now experts in the Office of the Deputy Chief of Staff for Personnel are forecasting an increase to around 190,000 by the end of this fiscal year.

Some of the credit goes to various Reserve recruiting incentives and broadening enlistment standards. Some of this success can also be attributed to the U.S. Army Recruiting Command which recently took on the expanded mission of supplying the Army Reserve, as well as the Active Component, with new people.

However, the numbers are still way below the projected need. USAR units, which provide a major portion of the support forces for Active combat units in wartime, are almost 72,000 short of peacetime strength and 88,000 short of projected wartime requirements. USAR overall paid drill strength at the end of April was 72 percent of the peacetime strength level. Clearly, more hard work needs to be done to attract and retain volunteers to the Army Reserve.

The Army Reserve has a critical shortage of medical personnel. The units have only 48.4 percent of the needed nurses and 26.5 percent of the required physicians.

Since the Reserve Components are expected to provide more than 60 percent of the total deployable medical force, many Army experts doubt whether the United States would be able to handle the expected number of casualties in the early stages of a war. This is an area where intense activity is needed to encourage health professionals to join Army Reserve medical units.

The Army National Guard, another primary backup force for the Active Army, is a key source of combat units. Although the Guard is authorized approximately 400,000 soldiers, at the end of May it numbered 345,000. Only four states have all Guard units at full strength.

The Individual Ready Reserve (IRR) is currently the Army's primary source of pre-trained personnel. The IRR would provide personnel to under-strength units, supply replacements for combat losses and provide individuals for the cadre of new units. The IRR, however, cannot meet the total requirements. Retired personnel and Standby Reservists must also be considered possible sources.

The problems in the Reserve Components are even more critical in light of the increased mission requirements of the "Total Force" program. National Guard and USAR units are expected to be able to provide almost half the Army's initial wartime manpower. In the event of a war, Pentagon planners anticipate it would reach a high intensity relatively quickly, requiring short-fused deployment of trained units. If the Reserve forces aren't ready, officials warn, the results could be catastrophic.

A 1978 test of Reserve mobilization concluded that under current conditions many Army Reserve units would have trouble meeting their wartime mobilization and deployment requirements. In some units, the essential manpower for the mission was simply not available.

Lieutenant General Sydney Berry, commander of the U.S. Army's V Corps in Europe, has said that with its present strength the Army could handle only the first wave of a conventional Soviet attack. "The problem," he said, "is sustaining the forces with replacements of trained men."

In the kind of scenario painted by Defense planners, the Army needs enough personnel strength to be able to fight a major war in support of NATO and a second smaller contingency in another part of the world — a "one-and-a-half war."

There are still other strategists who believe that military personnel levels, especially Army, are presently below the figures that would be needed to sustain force in a major conventional war, even if there is no other simultaneous contingency of any kind.

During the draft years, National Guard and Reserve units had little trouble meeting their strength needs. Many recruits during that period were draft-age men who became part-time soldiers to fulfill military commitments in the Reserve and avoid active duty.

"We lived with draft personnel," a Reserve officer said. "Then the bottom dropped out." When their commitments were up, and the draft no longer a threat, men left the Reserve and Guard in record numbers. And not enough people took their places.

But if the end of the draft was hard on the Reserve and National Guard units, it also affected the IRR. For a draftee, two years of active duty were usually followed by four years in the IRR. When the draft ended, a good share of the IRR eventually went with it. The paring down of the Army's authorized strength also took a chunk out of the IRR.

There are some who argue that the only solution to the problem would be a return to the draft — most likely an IRR draft with service obligations similar to those in the present IRR direct enlistment test program. This approach has stirred much controversy in Congress and the Nation. (See accompanying article.)

The Carter administration, while recognizing problems in the Reserve Components, objects to any proposals for peacetime conscription. "It is not necessary to impose this burden on our Nation and its youth," the President has said. He is expected to veto any legislation that would run counter to his stated position.

The Active Army, Army Reserve and National Guard are all short personnel. Significant resources have been expended to attract people to the Active Army in the all-volunteer environment. Some Reserve officials claim the Active Army's all-volunteer drive has been at

80th MTC Photo: John Pasco

the expense of needed recruiting funds and exposure for Reserve Forces.

Pentagon staffers cite a number of other elements which may have compounded the problems of acquiring Reserve manpower. These include changes in societal values and a decreasing pool of military-age men and women.

So the Army is taking measures to improve troop strength. Some have already been put into effect. For most of these programs, however, it's still too early to determine their full impact. Some of these existing actions include:

- **Extending the six-year military obligation to women.** Active Army women enlistees are now obligated the same as men. Where women had no IRR commitments before, now they will be a source of IRR strength after completing active duty.
- **Equalizing enlistment standards.** Beginning in October, women enlistees will have the same education and intelligence requirements as men, rather than the previously higher standards.
- **Stopping automatic transfer of IRR members to the Standby Reserve.** Before April 1978, Army members were automatically transferred to the Standby Reserve for their last year of obligated service. Now they remain in the IRR unless they request a change to standby status, making them more easily accessible during times when they are needed.
- **Allowing direct enlistments into the IRR for combat arms.** The Army is testing this program under which volunters serve an initial training period on active duty and will spend the rest of their six-year obligation in the IRR, with some peacetime refresher training.
- **Restoring two-year enlistments for the Active forces.** This year the Army began accepting, on a test basis, volunteers for two-year enlistments in the combat arms. At the end of their two-year active duty, most of these soldiers are expected to spend four years in the IRR.
- **Developing a trained full-time Reserve recruiting force and assigning management of Reserve recruiting to the U.S. Army Recruiting Command (USAREC).** Formerly, Reserve recruiting was solely the responsibility of the unit commander. Now USAREC is a partner in this effort.
- **Offering special proficiency pay for full-time recruiters.**
- **Offering reenlistment bonuses to first-termers in selected high-priority Guard and Reserve units.**
- **Offering cash bonuses and educational assistance to persons without prior service enlisting in selected high-priority Reserve units.**
- **Broadening Reserve enlistment options.** Formerly, men under 26 years of age had only two service options — six years with a unit or four years with a unit and two years in the IRR. A program recently initiated offers the option of three years with a unit and three years with the IRR, requiring less of a drill time commitment from an enlistee.
- **Establishing a "split-training" program option.** Under this option, an enlistee can put a period of time between basic training and advanced individual training. This option is attracting students and seasonal workers who might otherwise not be able to fulfill their initial active duty training without interrupting their education or employment.
- **Offering reenlistment in the IRR.** Previously, soldiers in the IRR were automatically discharged at the end of their six-year obligation. Now their records are screened and they are given the option of reenlisting.
- **Developing a personnel management program for IRR members.** This program allows the Reservist to continue his or her military affiliation, without participation in a unit, by serving up to 30 days each year in counterpart training at an Active Army installation.
- **Allowing some ROTC cadets to serve simultaneously as paid members of Reserve units.** ROTC cadets may be assigned to the units as officer trainees.

* * *

Pentagon officials maintain that the combination of these programs will have a positive effect and should gradually build the Selected Reserve to more favorable strength levels.

Other changes are still in the planning.

The retired personnel utilization program, as proposed by DoD, would identify suitable wartime positions which could be filled by personnel under age 60 and retired less than 10 years. It would maintain contact with them, determine their availability for military service and establish M-day procedures for notification and movement to mobilization assignments. Included in this potential backup are retired veterans from both the Active Army and Ready Reserve.

The Army is already collecting information on retirees with the possibility of issuing mobilization orders to those physically able to serve. These men and women would be used to staff CONUS installations, freeing younger men to fight. With "hip pocket" orders, retirees could be available soon after the start of a national emergency.

The various changes proposed by Department of Defense, Department of the Army and members of Congress, demonstrate an increased concern for the condition of the Reserve Components. They are integral parts of the Total Force, upon which the Nation entrusts the safety of its future.

This analysis of the Army Reserve manpower situation was the product of many hands; primary among those were First Lieutenant Chris Morgan, contributing editor, and Janet Hake, associate editor.

THE DRAFT

Old Subject New Debate

by Capt. James E. Swartz

More than six years have passed since the draft was used to fill military strength requirements. Now, in the wake of manpower shortages — among the Armed Forces, Army Reserve units and the Individual Ready Reserve (IRR) have been the hardest hit — an active and sometimes heated debate has spread throughout the country. People are asking, is conscription, or registration toward that end, feasible and in the Nation's best interest?

The draft issue doesn't follow liberal/conservative nor Democrat/Republican lines. The position of the present administration is about the same as recent predecessors. That is, the volunteer Army concept introduced in 1971 is working. But at the same time, some strategists argue that military (primarily Army) personnel levels are below the figures that would be needed for sustaining force in a major conventional war.

The central area of discussion — whether to return to the draft — is in Congress. Certain Senate and House members have endorsed a variety of proposals. Many of these have been written into bills for formal review and they call for virtually everything from a near dismantling of the Selective Service System to a possible draft to include women.

Here are some of the major congressional positions:

• In April of this year Rep. John Seiberling sent a letter to the White House urging President Carter to "oppose the draft, compulsory nonmilitary national service, and universal registration." The letter was co-signed by 39 other members of Congress, and was officially supported by some 40 organizations and individuals.

• One of the more vocal supporters of retaining the volunter concept is Rep. Les Aspin (D-Wis.), who contends that the Armed Forces can easily overcome any personnel deficiencies by lowering entrance aptitude standards. Aspin says that an effective military doesn't need high school graduates for critically short infantry, armor and artillery jobs. Aspin further claims that the all-volunteer military "is actually meeting more of its monthly goals for recruits than the draft force of the 1960s."

• Sen. Sam Nunn (D-Ga.), chairman of the Senate Armed Services Subcommittee on Manpower and Personnel, is one of the Senate's leading proponents of draft registration. Nunn contends that the volunteer Army "came about not on the basis of good analysis, but on the basis of a political decision . . . that would buy time for Vietnam, cool off the campuses and take the heat off." In June of 1978, Nunn's subcommittee recommended that the Selective Service System be put back into limited operation to register and classify all youths, ages 17 to 26. The committee also suggested further investigation of a program of national service for all youths, male and female.

• Rep. Robin Beard (R-Tenn.), has been among the most vocal critics of the volunteer idea. Beard charged that the Department of Defense and the Army have not been telling "Congress and the Amercan people about the true state of our defense manpower system." The four-term congressman maintains that active force levels are 80,000 short of wartime requirements while the Reserve Components need some 180,000 additional personnel.

But Beard believes that the Reserve situation is not the Nation's most drastic military need. In a five-month study released last year, he speculated that, after 90 days into a major war, our Armed Forces could have fewer than 40 percent of the required number of doctors, about one-fourth of the nurses and fewer than half of the enlisted medics needed to accomplish the mission.

• Rep. G. V. "Sonny" Montgomery (D-Miss.), believes that the most critical shortage of personnel is within the Individual Ready Reserve. Early this year he introduced a bill in the House to amend the Selective Service Act to 1) reactivate draft registration and classification; 2) extend the requirement for such registration to women; 3) provide authority for induction of as many as 200,000 males within the IRR; and 4) provide for education aid to those inducted. The proposal failed in House subcommitee action earlier this year by a 5-4 vote.

• Another member of Congress, Rep. Paul N. McCloskey, Jr. (R-Calif.), has assumed a broader perspective toward renewed draft legislation via his National Youth Service program. Rather than confine service to a few, via lottery or another means of selection, McCloskey argues that the most equitable way to raise sagging troop levels would be to offer a number of military and civilan programs to all young persons.

Four alternatives are proposed under this program, which is co-sponsored by 15 congressmen: 1) volunteer for two years military service with a guarantee of four years education to follow; 2) volunteer for six months active service, followed by five-and-one-half years of Reserve duty; 3) volunteer one year's civilian service in a community or environmental capacity; or 4) be placed in a lottery pool subject to induction. Under this plan, mili-

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tary pay for one's initial two years of service would be reduced to a subsistence level.

* * *

The President has said that present needs don't require either conscription or registration. But the Administration has expressed concern over Reserve shortfalls, while pointing to the success of the volunteer Active forces. In March President Cartter said that Reserve units are clearly short of personnel. At that time he issued an appeal to Americans to join the Reserves.

A Department of Defense study issued in December on the all-volunter Armed Forces concluded that the volunteer concept is working. "On balance," the 390-page study says "the mobilization resources under the AVF (al-volunteer forces) look satisfactory. In military capability one is never as strong as one would like, but the AVF is much better than many critics imply."

However, the study found deficiencies in four areas: 1) selected USAR troop program units (TPUs); 2) pretrained personnel for the Army; 3) medical doctors; and 4) an inadequate standby selective service system.

Both Secretary of Defense Harold Brown and Secretary of the Army Clifford L. Alexander, Jr., have said that the volunteer force concept is superior to returning to a draft. Alexander stated that the draft is "unnecessary, unfair and counter-productive to the best interests of the Army." Brown said, in House Armed Services Commitee testimony, that should a draft be reinstituted, it should include women as well as men; a comment that stimulated considerable controversy throughout the country.

Officials of the Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics say they plan to treat all prior military-trained people as mobilization resources. The total pretrained pool consists of the IRR, retired personnel, the Standby Reserve and veterans without a military obligation.

The Chief of the Army Reserve, Department of the Army, serves as an advisor to the Army's Chief of Staff on all USAR matters and is often called on to testify before Congress on Reserve policy, procedures and problems. Earlier this year, the Office of the Chief (OCAR) predicted that USAR force levels will be short about a quarter of a million men on mobilization.

OCAR was referring to the Individual Ready Reserve, the manpower pool of individual military replacements. From more than a million-and-a-half members during the Vietnam era, the IRR has dropped to about 200,000 individuals on the muster roll. USAR troop units are also short of the projected need. By the end of June, some 190,000 people occupied the 260,000 authorized TPU slots.

By 53 percent, a majority of respondents in an ABC/Harris survey said they would favor a return to the military draft as a substitute for the present system of recruiting volunteers for the Armed Forces. An even higher majority, 66 percent, said they would support immediate registration of young people between ages 18 and 28 to be available for a draft in the event of another war.

In a recent Gallup Poll, the results, perhaps, were even more striking. Seventy-six percent of those queried said they favored registration of 18-year-old males while only 17 percent disapproved of such a program. And on the public service issue endorsed by Rep. McCloskey, an Associated Press/NBC News poll found that 52 percent of Americans favored universal public service of some type, as compared to 37 percent opposed.

The issue of drafting women also has some support. The New York *Daily News* found in its poll that half the New York metropolitan residents favored drafting women should draft legislation be reenacted.

However, polls of draft-age people show sentiment against such legislation. And there is some organized opposition to reinstituting the draft. The Commitee Against Registration and the Draft (CARD), headquartered in Washington, D.C., is a coalition of 30 national organizations. Among them are the American Civil Liberties Union (ACLU) and the Young Libertarian Alliance.

Duane Shank, executive director of CARD, and the Rev. Barry Lynn, the organization's chairman, hold that the draft is unfair to the poor and disadvantaged and represents an invasion of a person's civil liberties and privacy.

The House Armed Services Committee has approved a proposal to require potential draftees, upon reaching the age of 18, to register with the Selective Service System. That measure passed the Committee by a 30-4 count, but the full House later killed the provision. The debate goes on, though, in Congress and out.

In the meantime, whether to draft or not to draft may be a hotly debated item. Some political observers expect the matter to be an issue of the 1980 national elections, meaning that the all-volunteer Army will probably continue at least for another year.

Here Comes The Sun

Reserve Duty For Old Sol

It's an association with roots in the mists of time, some fabled, some factual. It's an association whose time has arrived. The association is between the Army Reserve and the sun.

The Greek mathematician and engineer Archimedes may have been the first to make military use of solar energy. Historians say he probably used thousands of gold and bronze shields as reflecting mirrors, focusing the sun's rays on the dark sails of a Roman fleet besieging Syracuse in 212 B.C. In a hypothetic reconstruction, scientists guess this ancient "ray gun" would have reached a temperature of 1,550°F — more than enough to ignite the unwelcome armada in a few seconds.

The military made less dramatic use of the sun during the late 19th and early 20th centuries with the heliograph. Using a set of mirrors, the heliograph flashed coded messages over long distances. A precursor of the "wireless," the heliograph's major limitations were its dependence on sunlight and line-of-sight.

During World War II, the military approached more conventional uses of solar energy. Survival kits included a portable solar furnace used to distill and purify drinking water.

Today the military is among the leaders in the development of solar energy as an alternative to dwindling and costly fossil fuel reserves. Solar panels installed atop the Norwich, Conn., National Guard armory several years ago continue to warm Reservists and Guardsmen, benefactors of solar pilot projects intended to take the theory out of experimental technology.

It's a long way and several thousand years from the shores of ancient Greece to Seagoville, Tex., but the two places have something in common. The military use of solar energy, though for entirely different reasons, is the common denominator. The Army Reserve is beginning to use the sunny Texas skies to heat and cool one of its newest training centers. The effort has begun not only in Texas, but at two other Reserve Centers in New Mexico and Mississippi.

Military use of the sun's power is by no means new. Neither is the use of the sun to provide energy to perform everyday chores. What's new is the use of Old Sol to warm and cool the inside of buildings on a large scale. And the Army Reserve Center is big.

The center's 28,000 square feet of space is a tall order for any heating and air conditioning plant. To put it in perspective, an average size, 10-classroom school building runs around 22,000 square feet. The idea of handling the energy requirements of a building so big with a technology so young is not only ambitious, but expensive and fraught with potential pitfalls, many not yet discovered.

Moral Commitment

Motives behind military solar experiments were explained by a project officer for the Army Reserve, Lieutenant Colonel Willard Gwilliam. "This is a moral commitment to the nation's body of technology, and we have a significant role in that," he said. "We're helping to increase this very necesary body of knowledge. At least all those mechanics — the union laborers who worked on our job — have increased their knowledge of solar energy for other jobs. If you're using solar power to save dollars, then you're in the wrong ballpark; if you're doing it to save energy, then you're in the right ballpark." Gwilliam is a civilian architect and Reservist currently serving as a solar center project officer for the Office, Chief, Army Reserve at the Pentagon.

The implementation of solar devices is an expensive proposition, costing more than equivalent systems using more conventional sources of energy. However, high energy costs and limited resources make solar research and development imperative. Contractors, engineers and manufacturers learn by experience as construction problems occur in developmental projects. The cost of solar investment will decrease as industry masters the new technology.

High Tech vs. Low Tech

In discussing the actual construction of the Reserve Center, Gwilliam pointed out the differences between high and low solar technology.

"Low technology can be summed up with the concept of the relationship a homeowner has with his house. He can open a window or close a shutter or shade if it's too hot. He has the ability to directly affect the system. The high technology system such as we have in our Seagoville Center, is, in essence, a sealed system. That is, windows can't be opened, the occupant can't have a direct effect on the system except through the system itself. He can affect the system by turning a thermostat dial, but by doing so, he is using a portion of the system itself to make it react. The occupant simply cannot by-pass the heating or cooling system by utilizing passive measures to change the climatic variables within the structure."

Seagoville: The System

A quick turn of the thermostat at the Seagoville Center will have many effects, due to the size and complexity of the system. Solar collectors are arrayed on the roof of the building. These allow liquid to flow through tubing attached to a dark panel covered by a sheet of glass. Each unit is called a flat-plate collector. The sheet and tube which have absorbed heat from the sunlight transfers the heat to the liquid. The heated liquid is then pumped into an underground tank with an 18,000-gallon capacity, providing a heat source which can be used immediately or used to "store heat" for cloudy days. The heat is either used directly to provide warmth or to provide cooling through a heat absorption air conditioning system. The system is controlled by a computer.

The computer does more than merely operate the system. It's also designed to troubleshoot and collect data, governing an array of 11,000

Lt. Col. Gwilliam checks the surface heat of the solar panels.

square feet of solar collectors. If any became airlocked or in some other way inoperable or damaged, an operator of a computerless system wouldn't know it until the building became too hot or too cold — with irreparable damage done to the solar components.

Computer monitoring provides a simple way to check the system's output against established operating standards. The data gathering function is designed to provide the Army Reserve, the Department of Energy and the Army Corps of Engineers with actual performance data derived from the first year of operation. This will add to the national body of knowledge of solar powered building systems.

"Down Time"

As with many solar heating systems, the Seagoville Army Reserve Center has a complete conventional backup system. Why a backup? There are several reasons for it. "It's reliable but it's complex," said Gwilliam, "and because it's prototypical, we're going to have to accept some down time. Without an established base of solar experience, when problems arise all you can do is investigate based on limited experience."

"Down time" is the non-operating time of a fully functional system. Problems have caused headaches in getting the system on line. More are anticipated. But this is to be expected when "writing the book" on putting a new technology to work.

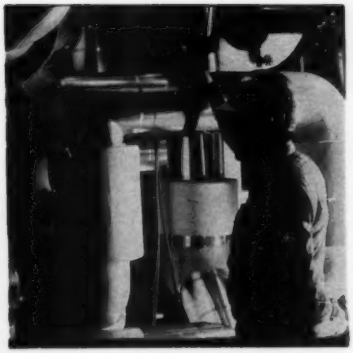
"Our system is designed so that the average person can turn the thermostat," Gwilliam said. "To activate the thermostat we have a computer, and before we can turn it somebody has to tell the computer that the building is being occupied. And we're not fully up to that yet.

"I don't think we've been able to fully train our maintenance people yet. It may take months. We haven't yet realized and rationalized the complexity of the system. It isn't only converting solar energy into heat within a liquid. It's the process of converting the heated liquid into usable heated or cooled spaces that presents the problem.

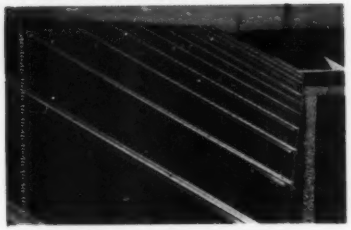
"This process is controlled by pneumatic valves that open and close by air pressure, which have been directed by temperature changes and directional controls provided electronically by the computer. So you've got computer technology hooked into pneumatic technology hooked into nuts and bolts valve technology carrying liquid technology. When you start looking at potential problems from the maintenance point of view, you're no longer adding three plus three problem areas and getting six, you're squaring three and getting nine problem areas.

"And that's one thing we're trying to overcome; training our maintenance people to handle it, and to feed the problems back to the designers of new systems."

One potential problem area is the roof of the building itself. When solar collectors were installed everyone wanted to see them up close, but no one knew if the roof could handle all the traffic. "Perhaps we should have paved it, like a road," Gwilliam stated. "We just didn't think of the PR implications."



The plumbing looks exotic.



Collecting the Texas sun

The Future

Although beset by start-up bugs and high development costs, the solar Army Reserve Centers represent a concrete technological advancement. They may arm us with the answers before relentless energy problems pose impossible questions. But will they soon become outmoded, like the propeller driven airplane or the coal-powered ship?

It is conceivable. Someday, our grandchildren may tour one of the prototype solar energy centers and giggle at the primitive system. But it is equally conceivable that they will then return to a home heated, cooled and powered by technology derived from that first attempt.

$olar?

Think solar energy is a big expensive hassle? Too complicated? Unproven technology? Guess again.

There is solar and there is solar. For a quick look at "simple solar" uses — things you can do in your own home — turn to page 34. *Army Reserve Magazine's* CONSUMERWATCH brings solar theory into a consumer perspective, beginning there.

Through the ages, insignia have included marks, signs and other symbols used to identify nations, military organizations and their components, families and individuals. The insignia of ancient civilizations are well known: the bull of the Assyrian empire, the eagle of Rome, the dragon of China, and the owl of Athens.

Present-day shoulder sleeve insignia, originating in World War I, is an evolvement from the Corps badges of the Civil and Spanish American Wars. Corps badges of the Civil War had their beginning with the "Kearny Patch," a round piece of red cloth worn on the front of caps for identification of personnel of General Philip Kearny's command. By the end of that war many other Corps badges had been adopted.

3d TRANS BDE

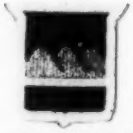
8th MED BDE

63d ARCOM

70th DIV (TNG)

75th

79th ARCOM


80th DIV (TNG)

81st ARCOM

83d ARCOM

84th DIV (TNG)

89th ARCOM

90th ARCOM

91st DIV (TNG)

94th ARCOM

95th DIV (TNG)

96th

102d ARCOM

103d COSCOM

104th DIV (TNG)

108th DIV (TNG)

120th ARCOM

121st

157th INF BDE

187th INF BDE

205th INF BDE

220th MP BDE

221st MP BDE

290th

351st CA CMD

352d CA CMD

353d CA CMD

354th CA BDE

358th CA BDE

411th ENGR BDE

412th ENGR CMD

416th ENGR CMD

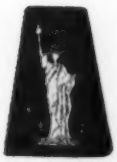
420th ENGR BDE

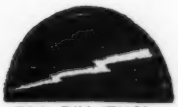
425th TF

TO ARMS!

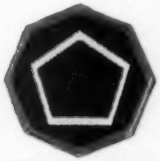
75th MAC

76th DIV (TNG)


77th ARCOM


78th DIV (TNG)

th DIV TNG)

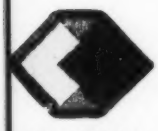

85th DIV (TNG)

86th ARCOM

87th MAC

88th ARCOM

NG)


96th ARCOM

97th ARCOM

98th DIV (TNG)

99th ARCOM

100th DIV (TNG)

M

121st ARCOM

122d ARCOM

123d ARCOM

124th ARCOM

143d TRANS BDE

DE

290th MP BDE

300th MP CMD

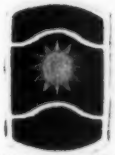
310th TAACOM

IX CORPS

311th SPT BDE

58th CA BDE

360th CA BDE


361st CA BDE

364th CA BDE

377th COSCOM

BDE

425th TRANS BDE

428th FA BDE

442d INF REG

807th MED BDE

It's believed the first shoulder sleeve insignia was worn by the men of the 81st Division. Supposedly, on their voyage to France in 1918, they adopted the figure of a wild cat. Eventually, it was officially approved for wear by all personnel of the division. Although worn overseas, they weren't permitted to be worn by soldiers in the United States until 1922. The design and approval of official U.S. Army shoulder sleeve insignia have become the job of The Institute of Heraldry, a directorate of The Adjutant General Center. Today, shoulder insignia are worn by almost every soldier of the U.S. Army. The patches pictured here represent those worn by units of the Army Reserve. *(Courtesy of The Institute of Heraldry.)*

Reservist Is Top Gun

An Army Reservist is the new National Pistol Champion for 1979.

Specialist 4 Darius Young of Alberta, Canada, squeezed out a two-point victory over Missouri Army National Guardsman Capt. Kenneth Buster in the last round of the four-day pistol competition at the National Rifle and Pistol matches at Camp Perry, Ohio, in July.

Young and Buster dueled to an almost unprecedented tie breaker in one round of the .22-caliber match with Buster barely winning the shoot-off. They had a tie score again in the shoot-off, but Buster had a few more in the small "X" center of the target.

The National Championship is decided by the total score fired with .22-caliber, center-fire and .45-caliber pistols. Each event has several rounds of slow-fire, timed and rapid-fire competition.

Young was one of more than 800 competitors in the pistol portion of the matches sponsored jointly by

the National Rifle Association (NRA) and the National Board for the Promotion of Rifle Practice. Hundreds more competitors will be at Camp Perry which is located on the southwest shore of Lake Erie.

Young is no stranger to the competition. He has been shooting in matches since 1956. A former Marine, the 41-year-old Young joined the Army Reserve two years ago to have a chance to shoot on the United States Army Reserve team, which he helped to victory in the team pistol events this year.

The United States Army Reserve team won the .45-caliber championship and was the overall winning pistol team. The Marine Corps pistol team took the .22-caliber and center-fire events.

Young also won the NRA "President's" pistol match.

Young is a U. S. citizen, but now lives in Canada where he is a full professor at the University of Alberta.

Other members of the United States Army Reserve team were Staff Sergeant Melvin P. Makin, Staff Sergeant Steve F. Reiter, Command Sergeant Major Charles E. Wheeler and Specialist 4 Ruby E. Fox.

Fox, from Parker, Ariz., was the high woman firer at the pistol matches with a score of 2,570.

Young will be competing next year for the U. S. Olympic team. He was a member of the U. S. Pistol team which won gold and silver medals in the Pan American Games in June.

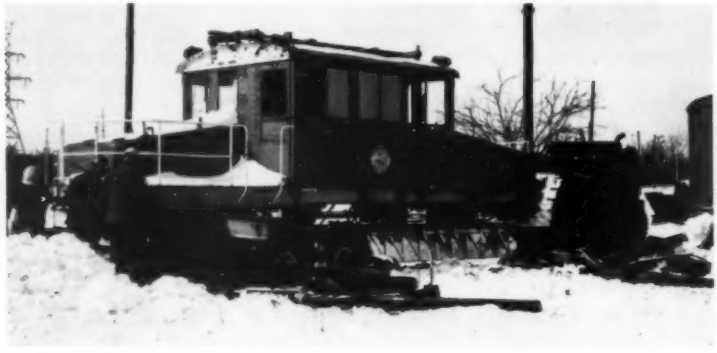
The Trolley Men Cometh; Ice Man Already Here

Milwaukee-area Army Reserve units braved a wind chill of 32 degrees below zero to deliver an ancient trolley to an electric railway historical group in East Troy, Wis., last winter.

While bitter February winds whipped off Lake Michigan, nipping at their faces and turning mustaches into icicles, 25 volunteer Reservists from the Milwaukee-based 1151st and 1152d transportation companies and the 961st Engineer Battalion from Racine, Wis., freed the land-locked snowbound locomotive from an isolated spur at the lakeside Milwaukee power plant.

"We hoped it would be a little warmer," said Lieutenant Kim R. Queen, a platoon leader of the 961st and leader of the operation. The locomotive had to be moved in freezing weather because the moving permit was only good for that particular Saturday. First Sergeant George Brusewitz, a civilian railroader, was the project coordinator for the effort; a trainman's holiday, so to speak, which he wouldn't cancel after the three months of planning that went into it.

Reservists worked 16 hours to uncover the 50-ton engine, load it on a low-boy trailer and transport it to East Troy, where it was unloaded on the grounds of the Wisconsin Electric Railway Historical Society. It was not the first move for the little motor. The engine, and a sister, had been previously donated to the same historical group.



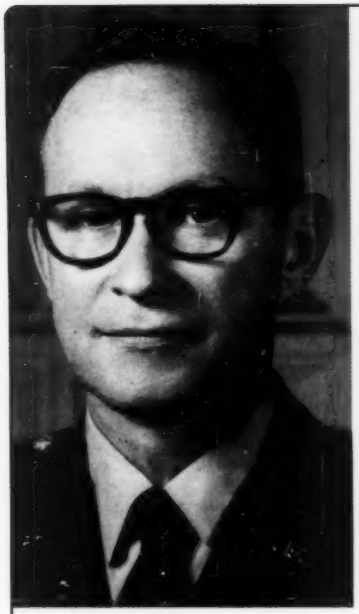
The old trolley had spent most of its career shuffling coal hoppers around the grounds of the power plant. When the plant abandoned coal for other fuels, the locomotive was donated to the trolley museum, where electric traction fans operated her on the grounds of a municipal railroad owned by East Troy.

That line was once part of a high-speed interurban electric network in southeastern Wisconsin. When the big interurban folded, the community took over operation of the line within the local area.

Then came the energy crunch of 1974. The Lakeside plant had to consider the possibility of returning the plant's boilers to a solid diet of bituminous coal. The two little trolley engines were recalled, but not to active duty, as the reconversion of the plant to coal was eventually shelved.

So the trolley group wanted their locomotive back again. Specialist 5 Dave Myers summed up the soldiers' sentiments: "I was never so cold in my life."

Hail To The Chief



Hail: Maj. Gen. Berkman

There is a new Chief of the Army Reserve. He is Major General William R. Berkman, elevated to his present rank when he assumed the Chief's chair on June 1. Maj. Gen. Berkman comes to the Pentagon job from the 351st Civil Affairs Command, Mountain View, Calif. Maj. Gen. Berkman commanded the 351st from June 1975 until his recent DA appointment.

Maj. Gen. Berkman entered military service in 1950, making him the first Chief, Army Reserve to be commissioned after World War II. He served on active duty in the early '50s, duty which included a tour as a battalion advisor in Korea. He has served in numerous Reserve assignments since that time, many of them in Civil Affairs organizations.

An attorney in civilian life, Maj. Gen. Berkman was most recently a member of the San Francisco law firm of Morrison and Foerster.

He succeeds Major General Henry Mohr, Chief since June 1975. Maj. Gen. Mohr, a former Army enlisted man and Pearl Harbor survivor, is a one-time commander of the 102d U.S. Army Reserve Command in St. Louis.

Farewell: Maj. Gen. Mohr

So What's A Chief, Army Reserve, Anyway?

The position of Chief, Army Reserve, is outside of the chain of command. The Chief is the primary advisor to the Army Chief of Staff on all matters pertaining to the Army Reserve. But he is more than that — he has a lot to do with what money the USAR gets, and how it is spent.

The Chief is the Reserve's appropriations director, responsible for formulating and managing all USAR money. And he is traditionally the Reserve's spokesman and defender before Congress, the Department of Defense, and the news media. Despite all this responsibility, the Chief, Army Reserve commands neither units nor individual Reservists. He heads a staff of about 60 active and Reserve military personnel, and 50 civilians.

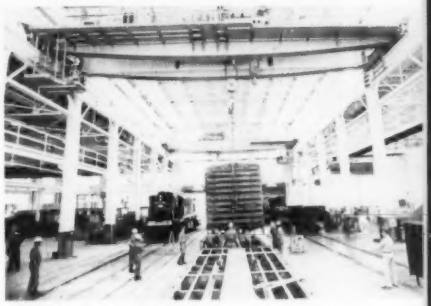
The commander of U.S. Army Forces Command (FORSCOM) is the commander of all Army Reserve unit organizations in the United States. The commander of the U.S. Army Reserve Components Personnel and Administration Center, in St. Louis, commands the individual Reservists not assigned to units.

All Aboard For Eustis

And you thought railroading was just for kids. To the steel-driving Reservists of St. Louis' 226th Transportation Co., railroad revival is serious business. Sparks flew when the men did some "shakin' and rakin'" on the rolling stock of the 25-mile utility railroad at Fort Eustic, Va., last May.

The "car barn" saw more action than it had since last September, when the home of Army transportation shut down the Army's last Active rail unit. Ninety of the 100 men assigned to the 226th are newbies. Their enthusiasm kept the lonesome whistle blowing with 14-hour days spent replanking flat cars, replacing cast iron wheels with steel ones, painting and performing other modifications to old Army rolling stock in order to meet standards set by the American Association of Railroads.

The unit performs the same service for the Army Material Development and Readiness Command (DARCOM) at the Granite City Army Depot in St. Louis. DARCOM maintains all Army rolling stock not in active use.



Reservists in railroadland

In the 157th Infantry Brigade (Sep)

ARMORED STAR

It's Germany Or Bust

by Capt. Joe Lilli

Under a tight blue sky an M60 tank tumbles down range. The men of Charlie Company are on the move.

"We're getting ready to spend two weeks annual training in Wildflecken, West Germany with the 11th Armored Cav," barks First Sergeant Anthony Downey, a leather-tough veteran of 23 years. "And let me tell you, Germany or not, the men know it's no vacation. They're going to bust their tails over there."

Charlie Company, a crack unit with the Reserve's Sixth Battalion of the 68th Armored, is headquartered at Fort Indiantown Gap, Penn. Recently selected as the "best of the Sixth of the 68th," it had to earn its trip to train overseas with the 11th — a matter of deep pride for the Central Pennsylvania command. Selection was based on several factors, including annual inspection results, scores from record firing and troop strength.

The C Co. troopers felt they should have gone

Home on the tank range for Charlie Company, Sixth of the 68th.

'Cross the next two mountains, hook a right at the sign. You can't miss it.'

Over hill, over dale, Charlie Company has hit the dusty trail.

to Germany last year. Instead, Alpha Company, a sister unit, was selected. "We knew they had the stuff, so we set out to prove it this year," says 1st Sgt. Downey.

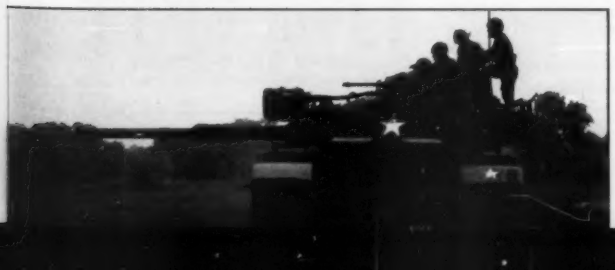
"These troopers worked hard. They wanted to go," adds First Lieutenant Robert Bilous, the company commander. "I have to say the spirit's never been higher."

Charlie Company will fire tank tables 6, 7c and 9 with the 11th Armored. Generally, Reserve tankers hone their gunnery skills by firing tank tables 1 through 7, a series of progressively harder crew-firing exercises held both day and night. They rarely fire the more advanced table 9, often a training requirement of the Active Army.

"In table 6 we fire from a stationary position. In table 7c we move the tanks down range and fire at moving targets," says 1st Lt. Bilous.

He pauses to watch one of his tanks blast a target. Dust and target fragments fly. "In table 9 the primary emphasis shifts from pure gunnery to gunnery and technical maneuvers. Essentially, it's the platoon in attack. All five tanks go down range. Three tanks, commanded by the platoon leader, constitute the heavy section. The other two, the light section, are commanded by the platoon sergeant. We'll be training with the M60A1, slightly more sophisticated than the M60s we train with in CONUS."

A tank rumbles up over a rise, spraying 50-caliber machine gun bullets across a target. Later on, the first sergeant declares: "Hot diggety! What did I tell you? We are the best doggone unit in the entire Army Reserve."



The Pilgrims never had this much trouble.

Plymouth (Mich.) Rock: Heavy Heft For Reserve

by Harry Noyes

Moving a six-ton rock from a quarry to a schoolyard isn't one of the regular items on the list of Army Reserve missions, but Reservists in the Detroit suburb of Livonia, Mich., were glad to tackle the challenge as a favor for a local high school.

It all started when Plymouth Salem High School in nearby Plymouth acquired a boulder to dress up the school's front lawn — suitable for the school's athletic teams, the "Plymouth Rocks."

But finding the rock and then getting it from a Northville, Mich., quarry to the school some 10 miles away turned out to be a chore. The school had no funds for transportation.

Two local Active Army recruiters, Staff Sergeants Dale Horner and Robert Byrd, said that the Army might be able to help. Having no equipment of their own, they contacted Army Reserve recruiter Sergeant First Class Jerry Mulholland of the 300th Military Police Command, a Reserve headquarters in Livonia.

Sgt. 1st Class Mulholland called on the Army Reservists at the nearby Area Maintenance Support Activity 40 shop (AMSA 40) and coordinated arrangements for the use of the AMSA's equipment and operators.

AMSA technicians Charles Lundberg, Thomas Taylor and Charles Gould used a military crane and a low-boy flatbed trailer truck to move the rock.

Quarry workers watching the AMSA crew were impressed.

"These guys are smooth . . . smoother than us," one quarryman said.

The rock, weighed on the quarry's scale, turned out to be 11,520 pounds, somewhat over the crane's rated capacity. Despite that, the loading, movement and unloading proceeded without incident. The toughest part of the operation turned out to be getting the rock to "cooperate," by standing up the way the school administrators wanted it. The school people were on hand to supervise the placement. They thanked the Army Reservists for their help.

AMSA 40 provides maintenance support to Army Reserve units in southern Michigan. The AMSA technicians are dual service, civil service employees who are also members of the USAR.

Thanks, Boss

September was National Employer Appreciation Month. It was an official reason for citizens-soldiers to say "thanks" to their civilian employers who have joined the team for national defense.

Employer support is needed to allow Guardsmen and Reservists to take part in the training programs that insure their readiness. Since the all-volunteer force was adopted, Reserve forces of all services have faced stiffer readiness requirements than ever before. They provide almost 30 percent of the Nation's total defense force. In the Army, the Guard and Reserve form better than half of the total deployable forces.

Employers of Guardsmen and Reservists are expected to grant military leave for training periods in addition to earned vacation time. The law, in fact, requires them to do so. Employers also must insure that their citizen-soldier employees have the same job and promotion opportunities as employees who do not serve.

The 84th Plays Tag

Folks at the headuarters of the 84th Division (Training) in Milwaukee have been having fun with Wisconsin's "vanity" auto license plates, of late. For ten bucks, Wisconsin residents can order up personalized tags, choosing messages up to six characters in length.

Capt. Wilbert R. Sass chose "USAR." Capt. Steven Kelly chose "THE CPT." A couple of 84th Division officers anticipated upcoming promotions when ordering their special plates. "LTC MOE" was selected by then-Major Ronald E. Moe. "COL" now graces the plates of Colonel James E. Detjen, who was a Lt. Col. when he chose the inscription.

The vanity plate mania has spread beyond division headquarters. Sgt. 1st Class John Leder of the division's 2d Brigade in Beaver Dam, Wis., chose "84 DIV" for his tags.

The tag says it all.

362d Brigade: Says 'So-Long' With Class

Unit inactivations are no fun, but one USAR unit that finds itself on the outside of the Army's force structure needs is retaining its sense of humor.

According to the 90th ARCOM's *Tough 'Ombre,* members of the Dallas-based 362d Civil Affairs Brigade are facing their unit's impending demise with a touch of wit.

The 362d is set to furl its colors on Sept. 30. In honor of the occasion, "September Song" has been chosen as the brigade's new anthem.

Tough 'Ombre also reports that the 362d's annual Christmas party has been scheduled for the Labor Day weekend. A matter of necessity, of course.

Any Wednesday

Active Army recruiters have teamed up with Reserve basic training instructors to bring an exercise in Total Army teamwork to Glens Falls, N. Y. It happens every Wednesday evening.

Wednesday is drill night for the Reserve's 1st Battalion, 398th Regiment. The regiment is an element of the 98th Division (Training). Thanks to a couple of local Active Army recruiters, the battalion's drill sergeants have some real, live Army recruits to train.

The recruits are young men and women who have enlisted in the Army through the Delayed Entry Program, the "DEP" for short. On a voluntary basis, the "DEPs" attend the weekly drill meetings, and get some sample basic training from the Reserve drill sergeants.

The Wednesday night sessions were conceived by Sergeant First Class Clifford Dufrain and Staff Sergeant David Duell, recruiters assigned to the local Recruiting Station in the upstate New York community. Sgt. 1st Class Dufrain points out how the training boosts both the recruits and the Reservists.

"The DEP learns what the Army expects, and gets a taste of the sort of training that lies ahead at Basic.

"Meanwhile, the drill sergeants have new recruits to train, just like they would at a basic training post. They're doing their mobilization jobs at home station."

Staff Sgt. Graham, 2d Lt. Woodman, Capt. Gibson and Spec. 4 Prondzinski have their hands full with Lanzinger's "The Flagbearer."

Reservists Deal With Der Fuhrer

Some Army Reservists from Wisconsin and Minnesota spent a portion of their annual training, this year, dealing with Adolf Hitler.

Actually, the four person Arts and Monuments Team of the 407th Civil Affairs Company, Winona, Minn., had just a short meeting with *Der Fuhrer*. The acquaintanceship consisted of the Reservists unpacking and storing a famous piece of captured World War II German art depicting the Nazi leader. The painting, a propaganda rendition of Hitler in knight's armor, bearing a party flag, is in the collection of the Army Art Activity. The 407th's team supported the Art Activity, located in Alexandria, Va., during the first two weeks in June. Officially, the painting is *"The Flagbearer,"* by Lanzinger. Art Activity staffers refer to it, off the record, as "Hitler, The White Knight."

The 407th's team spent most of their training time cataloging another famous holding of the Art Activity — the *Life* magazine collection of World War II art.

The team consisted of Captain Ken Gibson, Second Lieutenant Gina Woodman, Staff Sergeant Bill Graham, and Specialist 4 Ron Prondzinski. Spec. 4 Prondzinski is the only team member with a special interest in art; he is an art major at St. Mary's College in Winona.

There Is A Photo Contest

Whatever happened to the great *Army Reserve Magazine* Photo Contest?

As a result of recent staffing shuffles, and some changes in the magazine's specs, the 1979 photo contest has been declared deceased. No matter; there were no entries, anyway.

HOWEVER, We are proud to announce the return of the great *Army Reserve Magazine* Photo Contest, for 1980.

Here are the rules:

- Black and white submissions, only.
- Enter any or all of the following categories: PEOPLE, RESERVE DUTY, LIGHT AND SHADOW, PERSPECTIVE.
- Limit five submissions per contestant.
- All photos must be submitted to Editor, ARM, not later than April 1, 1980.
- All photos must bear name, address, daytime phone number of contestant.
- Contestants must be USAR members, retired USAR members, or Department of the Army civilians employed by the USAR.
- Winners get a handsome, imitation wood plaque. Maybe real wood if we can come up with some.

Rex Digs Sand On Behalf Of The Reserve

"You don't want to look back unless that's the direction you really want to go," said a drag racer who pilots a flying billboard partially funded by Army Reserve advertising: a '79 Trans Am sand dragster covered bumper-to-bumper with a promotional paint job.

Rex Zollinger is looking straight ahead on the sand drag circuit this year strapped into 1,800 pounds of high performance equipment capable of rocketing through 100 yards of sand in three seconds. The Trans Am AA funny car runs on a 10-foot wheel base, tractor-sized tires and a mixture of nitromethane and money — mad money provided by Sixth Army in exchange for advertising space on what is probably the most current and best engineered car on the sand.

"One of the biggest problems I encountered was the financing of my race car," Zollinger said. "When you first start running fuel cars you seem to break a lot of parts, which spells a real financial burden. I don't think I could have progressed as far without the Reserve's involvement."

Rex kicks up some kitty litter for the benefit of West Coast sand drag fans.

The Army Reserve began advertising on Zollinger's sleek machines in 1977, after his 10 winning years on fuel car circuits in Utah and California. By the time the '78 season ended, Zollinger had won almost 9 out of every 10 races, conquered the top points driver twice in a row, and established himself as one of the top contenders to become overall points driver this year.

USAR Construction: Fewer Centers

They're just not building USAR Centers the way they used to. Quality of the new USAR centers isn't the problem; quantity is the sticky point. Funding for new and rebuilt Army Reserve centers has tumbled in fiscal year 1979 and the outlook for next year is no better.

From 1972 through 1978, the USAR construction budget stood at about $60 million each year (figured in FY '79 dollars). This amount of money allowed the Reserve to replace or rehabilitate about 40 centers a year.

The bottom fell out in FY 1979. That year, the Congress appropriated just $37 million, and the prospects for 1980 are even worse. At *Army Reserve Magazine* press time, the 1980 budget request was for $25 million.

The lean '79 program funded replacement and rehab of 24 projects. The prospective 1980 funding level will pay for just 13 centers.

Which units will get new and rejuvenated centers? There's no easy answer, but a close look at the track record shows pretty well what type of units *won't* see construction.

Budget decision-makers are not sympathetic to projects that support Army Reserve units with less than 55 members. They also turn aside projects for units which are up for realignment, those which have less than 75 percent of authorized people on board, and those which have late deployment dates.

Army Reserve construction planners, faced with dwindling resources, estimated that it would take years to catch up with the construction backlog. At first, the estimates suggested that a period of 13 to 20 years would be necessary for the Reserve to catch up with construction needs identified right now.

As the cash prospects have lessened even more, the old 13 to 20 year backlog estimate is now out the window. One USAR construction manager recently stated that "We'll never catch up" at current funding levels.

Last One Out

Shut Off The Lights

Bad jokes about "going out with a blaze of glory," and "last man out shut off the lights," abounded, as Battery C, 29th Field Artillery shut down its 800 million candlepower for the last time, in April. The Westminster, Md., USAR unit, which went out of business this summer, decided that it might as well go out in style.

Early on the afternoon of April 21, the unit marched from its Reserve Center to a shopping mall in nearby Eldersburg. At dusk, the unit conducted a graduation ceremony for its Primary Leadership Course students, and then dispersed to the surrounding woods and fields. For the last time came the order, "Lay the battery."

On flicked the 30-inch xenon lights. The big beams were visible throughout Carroll County, drawing spectators all the way from Frederick and Baltimore.

Once an air defense unit wielding M42, 40mm "duster" weapons, the outfit began its searchlight mission in June 1955.

But its new mission as a Heavy Equipment Maintenance Company is apparently more important to the Army scheme of things. Less illuminating, however.

Battery C: No more enlightenment.

New England Reservists Help Out With Sad Work

On a Thursday evening last January, two private planes collided near a small airport in Templeton, Mass. There were no survivors among the five people aboard the aircraft.

One of the planes fell into a remote, frozen marshland. Local emergency officials were not able, immediately, to get across the rough ground to recover the plane and the three victims inside.

On Friday afternoon, a call for help went out to Major Hank Sabine, at Troop D, 5th Calvary Regiment, 187th Infantry Brigade (Separate), U.S. Army Reserve. Major Sabine had some Reservists available to assist, as well as an armored personnel carrier, a 5-ton wrecker and a flatbed trailer.

At 1 p.m., Sergeant Alan Michaels was at work at a box company in Leominster, Mass. He was having a tough time; his wife was expecting and was due momentarily. Meanwhile, Specialist 4 Steven Gendron was also hard at work in Leominster. He was looking forward to the weekend, one which he expected to be warm, dry and routine.

Lieutenant Edward Seery was driving to Fort Devens from his home in New Hampshire at that hour, planning to set up a work area for the unit's drill session on Saturday.

But for Seery, Michaels and Gendron, the weekend turned out a bit different than they had planned. Things changed for them when the three, and Sergeant Raymond Champoux and Specialist 4 Roger Labrie, all answered Maj. Sabine's call for volunteers.

By 3 p.m., the 187th men, along with a tractor trailer and two men from the 39th Engineers, were headed for Templeton. Two State Police cruisers escorted them. No one was quite sure what they would find at the crash site. Rumors abounded. One suggested that the plane was under water in a pond; another held that survivors might be aboard.

All rumors were dispelled by what they found at the scene of the tragedy.

The wreckage lay partially buried in ice and frozen mud, in a marsh about 300 yards from the end of the Templeton airport runway. And there were no survivors.

Due to the swampy muck, those 300 yards took 20 minutes to cross. The APC was the only vehicle that could negotiate the marsh and cart the heavy equipment to the site.

On its first run the APC ferried firemen and divers to the crash scene. It soon became evident that the only way to recover the bodies was to use the APC to pull the plane's wreckage apart.

The APC headed back to the airstrip to pick up a generator, floodlights, and more local firemen. When the big lamps were switched on, a bystander remarked that the scene seemed eerie, unreal. A full, pale yellow moon, partially hidden by the overcast, added to the haunting atmosphere.

Sgt. Champoux then maneuvered the 11-ton APC onto the frozen pond, closer to the wreck. The icy swamp made the handling extremely tricky. Once on the pond, the APC was hooked to the plane, and used to peel back the twisted metal from the fuselage. After many tries, the wreckage was pulled apart enough to allow removal of the dead.

With the operation over, the 187th's men loaded up their equipment and headed back to Fort Devens. None of them had been required to help out with the sad chore, but as Major Sabine commented later, "We never have any problems getting volunteers."

Thanks to the 50th Public Affairs Detachment, Fort Devens, for providing the information used in this story.

There was no one to save, but there was a job to be done.

Fort Meade-area USAR Volunteers Help Some Very Special Olympians

Volunteers from the 97th U.S. Army Reserve Command turned out, this spring, to conduct a day of athletic competition for handicapped youngsters in the Fort Meade, Md., area.

The volunteers, NCOs from a number of nearby 97th units, assisted with the Fort Meade competition of the District of Columbia Special Olympics. The Meade event was sponsored by the 97th's chapter of the Non-Commissioned Officers Association.

The 97th's parachute demonstration team, the Centurions, added to the spectacle by dropping in on the opening ceremony. During the competition, other NCOs served as event officials and as "huggers."

Special Olympics "huggers" assist the athletes, making sure that each has a friend, each gets into the correct events, and each has a good time.

Sgt. 1st Class Sandy Farsand, left, and Staff Sgt. Wendy Woodham were among the 97th ARCOM volunteers assisting at Fort Meade's Special Olympics competition.

OPMS Update

Finding The Folks Finding The Slots

Once upon a time, Reserve officers largely managed their own careers. Getting ahead was often as much a function of what unit an officer joined and who the officer knew, as it was a function of ability, leadership and experience.

No one doubts that unit and personal contacts remain important to a Reservist's career, but now there is a great deal more.

Sometime last spring, the last of the 83,000 unit and Individual Ready Reserve (IRR) officers came under the central management umbrella of the Reserve Components Personnel and Administration Center (RCPAC). The final phase of the multi-year program began in October 1978.

RCPAC's "Management for Mobilization" program, officially termed the Officer Personnel Management System-USAR (OPMS-USAR), is helping USAR officers find new assignments and helping them to get trained.

There was some vocal opposition and skepticism about the plan when first announced in the mid-'70s. Some unit officers feared that they would be moved, arbitrarily, from unit positions and dumped into the IRR.

And a number of unit commanders balked, fearing they would lose their prerogative to make local assignments. Others knew that the old system of personnel management by personal contact worked just fine — for them.

In the years since OPMS-USAR got underway, most of these fears have been set aside. The personnel managers (who are themselves former Reserve unit members have spent a good deal of their time helping to place officers who have sought out a change in assignment. Some unit officers have found that new training opportunities available to the IRR allow them more flexibility than drilling with a unit. Commanders have not been force fed officers they do not need or want. And, Reservists with helpful personal contacts have found that OPMS-USAR often is able to assist them in landing assignments which make the most of those carefully cultivated associations.

Central management has proved to be a special boon for IRR officers. Once left pretty much to their own devices, IRR officers now find themselves aggressively sought out by RCPAC managers looking to fill training slots. Counterpart training of IRR people with Active Army units and installations is booming. Depending on fluctuating dollar levels, some IRR officers have been able to work with Active Army outfits for as long as 35 days a year.

Active Army organizations have learned, too, that Reserve officers have a lot to offer. A number of Army units and posts offer excellent training opportunities to Reserve officers on short tours of active duty; and, they have found that RCPAC can often lay its hands on exactly the right officer qualified to handle a short term project beyond the expertise of the Active Army staff.

Why OPMS? There are many reasons, but one of the most telling is the need to beef up the IRR. Current mobilization needs demand over 53,000 IRR and Standby Reserve officers to fill wartime slots in the first 40 days of mobilization. But the IRR officer pool is short; less than 45,000 officers are assigned. These numbers will barely meet the earliest needs. RCPAC believes that IRR officer numbers will swell if officer discharges — the number of officers who quit when their obligations are up — are trimmed.

It seems to be working. With RCPAC seeking out officers for active duty tours and schooling, and finding them unit jobs, retention rates are sneaking up.

A similar program for Reserve enlisted people is also underway. Phasing in to reflect budget contraints, RCPAC expected to have about 20,000 enlisted people under central management by the time *Army Reserve Magazine* went to press.

The program of central management has not gone entirely without problems. Each personnel manager handles between 1,000 and 1,500 Reservists; phones are often tied up and the managers work under intense pressure. Orders, the key to getting paid and getting travel authority, have often lagged, reflecting administrative and computer problems.

Central management aims to put the right people in the right jobs, and get them qualified.

'Normal' Paper Due

Sometime in the dim and distant past, the U. S. Government decided to save a little money, by reducing — ever so slightly — the size of the paper it used to conduct business.

Now, for the same reason, it has decided to return to the private industry standard. The changeover is to begin Jan. 1, 1980.

Meanwhile, Army administrative folks have been wrestling with 8-inch by 10½-inch paper, the Government issue. The trimmer Federal stuff has always "looked funny," especially when assembled in packages with standard "civilian" letter size, which is a half inch bigger in both directions.

A most annoying peeve with the little Federal paper is its use in photocopying machines. Clerical workers need a deft hand, at times, to copy the text of a civilian letter onto GI paper. Paper companies and copier manufacturers have had problems too; they have to produce, stock and distribute two sizes of paper — one for the Federal marketplace and one for everybody else. And that means higher costs.

So, the Government Printing Office has decreed a Federal return to 8½-by-11-inch paper stock. GPO estimates that the Government will use about 5 percent less paper, once the larger size is in use, and that Uncle Sam will save about $10 million each year.

SUBSCRIPTIONS

Yes, Virginia, there is an *Army Reserve Magazine*. Here's how you can get yours.

USAR unit members — make sure your unit Admin section has your correct address. If they do not, enter it in the remarks section of the DA Form 1379 — that's the record of your training. Every unit must complete one.

IRR/STANDBY members — write a letter to RCPAC, 9700 Page Blvd., St. Louis, MO 63132. Tell them that you want to verify or correct your home address.

OTHER FOLKS — write to us. We would be glad to add you to our VIP list.

TWO PAYCHECKS ARE BETTER THAN ONE. RE-UP.

With the cost of living costing you more everyday, it makes good sense to keep that extra paycheck coming in. And that means staying in today's Army Reserve.

You can look forward to receiving regular raises and promotions, if you qualify. And this adds up to an even bigger paycheck.

Staying in can save you money, too. Because you'll still have your low-cost life insurance. And your PX privileges.

And you'll be a lot closer to having an extra income when you're ready to retire.

Keep earning an extra paycheck that comes with a lot of extras. Re-up in today's Army Reserve.

STAY IN TODAY'S ARMY RESERVE.

STRIPES!

(How to get them)

TROOP UNIT

"Stripes!" is the first installment of RESERVE GUIDE, a new department of *Army Reserve Magazine*. RESERVE GUIDE, will seek to answer some of the basic questions about Reserve service — questions that come up again and again.

"How to get promoted" is a problem that every enlisted Reservist faces. And, though the system itself is not very complicated, how the system works often gets complicated indeed. So, for RESERVE GUIDE's first undertaking, we offer a few practical points on how to work your way through the enlisted promotion system with a minimum of hassles.

What's coming up in future RESERVE GUIDE pages? Our second topic will seek to unravel the mysteries of the great Army Reserve operation on the banks of the Mississippi. "How to deal with RCPAC," will attempt to explain what the Reserve Components Personnel and Administration Center is, what it does, and how to deal with each aspect of the Center's involvement in your Reserve career.

The GUIDE will include phone numbers and correct addresses and all the right buttons to push. RCPAC plays a very important role in every USAR member's service time; we feel you ought to know why and how.

by Sgt. 1st Class Joe Feichlin
102d ARCOM

How do I get promoted around here?

Recently, a soldier asked me this question. Probably every soldier in every army since Attila the Hun has voiced the same lament. Maybe a few words (and tricks) on how to "get stripes" in today's Army Reserve are in order.

First off, qualify yourself for promotion. Just because you've been in your unit awhile doesn't automatically make you promotable. Seniority doesn't count promotion-wise in the Army. Get qualified. Stay qualified. (Right now, in most Reserve units, qualification in your specialty is determined by the Commander's Evaluation. As the Army's Skill Qualification Test program comes on line in additional MOSs, the tests will play an increasingly important role in determining your qualification. But right now, the Commander's Evaluation is the most important document to show that you can do your job.)

Be in a slot — or get in a slot — in your unit where you can get promoted to the next higher rank. If slots are not available in your section, your platoon, or even your unit, find one someplace else and change. Get qualified in your new slot.

Learn the job. Take a correspondence course. Even if you are already an expert, it will help at retirement time. Besides, you automatically get "brownie points" with the commander and the promotion board. On-the-job training and civilian skills are often used to help determine skill qualification.

Put in your time. Before you can be promoted to the next rank, you must be in your present rank for a specified period of time. This is known as "time in grade."

Ask somebody one grade above you how long they had to be "in grade" before they were eligible for promotion. Odds are, they'll know the magic number. Or, check AR 140-158. Normally, you'll find it in the orderly room. The information for each rank is spelled out. Time in grade starts the day you became your present rank, which is called your "date of rank." Look in your 201 file; you'll find it.

Most importantly, you must deserve the promotion. Nothing grates on the ears of a platoon sergeant, first sergeant, or CO worse than a soldier crying, "I'll stay in if you promote me." They earned their rank the hard way, and they are not likely to pass it around like a stick of gum just because you bless them with your continued presence.

Deserve promotion; be motivated; work hard.

What? You say you've done all that? You're in the right slot? You're qualified? You've spent your time in grade? You do work hard? You're motivated?

Then now comes the hard part — the paperwork.

Don't count on your platoon sergeant, platoon leader, CO or unit technician to do all the work. Give them a hand, DO IT YOURSELF. It's quicker that way, you know most of the important facts, and you are not likely to misplace the packet.

First, ask to see your 201 file. Your CO and the promotion board will look at it. If you get a chance, do what many veteran Reservists do, make sure the file is filled with all the "goodies." Diplomas, awards, letters of appreciation. Correspondence course certificates are special "bright little stars" that catch the eye of the board. Ask your technician or personnel clerk to help the right goodies get posted in the file. If there's something missing, bring it to their attention.

Next, go get a DA 4100, the promotion worksheet. This is a key tool that is used to determine if you will be promoted. Fill out what you can and hassle somebody to help you fill out the rest.

On the DA 4100 there is a section in which your superiors must comment on you. Many promotions get bogged down right here, because people have a hard time putting their thoughts on paper. Help them out.

On a blank piece of paper, list your achievements (both civilian and military), your qualifications and merits. Say something nice about yourself. Attach all of these to the DA 4100, and chances are you'll see many of those words typed on the form itself.

Make a copy of the DA 4100, and a copy of every other piece of paper involved. Chances are, the packet may get lost, and if you have a fresh set ready to go, you can shave months off your promotion waiting time.

Next, take the DA 4100 (and any other paperwork your unit might require locally) to the platoon sergeant, Top, or to the CO. Each unit has someone designated to handle promotion paperwork.

Do it after lunch. Folks at the Reserve Center usually feel better after they have calmed their ulcers.

Lastly, follow up. Don't let the system forget you.

IRR

by Win Curran
RCPAC

Enlisted promotions in the IRR are based on a different sort of criteria. You need to be assigned to the IRR for at least one year and be in an active status, having earned 27 retirement points in the year immediately preceding the year of consideration. You also have to be MOS qualified and physically fit. The final criteria is having the time in grade. (For an E-7, 36 months as an E-6 is needed; an E-6, 36 months as an E-5; an E-5, 24 months as an E-4; an E-4, 24 months as an E-3; an E-3, 12 months as an E-2)

Your problem comes in getting those 27 retirement points. Each enlisted member of the IRR gets 15 points for just belonging to the IRR. The remaining 12 points are earned by taking correspondence courses and going on active duty training.

Those IRR enlisted members interested in becoming eligible for promotion consideration can contact their personnel management NCO at (800) 325-1876 (toll free). Reservists living in Missouri may call collect at (314) 263-7541.

For enlisted Reservists in the Long Tour Management Program, interest should focus on the first HQDA USAR enlisted selection board, that is tentatively scheduled for the fall of 1979 at the U.S. Army Reserve Components Personnel and Administration Center at St. Louis. The board will consider all enlisted members in a promotable status who are in the zone of consideration.

To be considered members must have been recommended for promotion on an enlisted evaluation report (EER) or senior enlisted evaluation report (SEER).

The board will consider the soldier's entire record with no one item determining the best qualified.

Enlisted participants in the Long Tour Management Program should consult DA Circular 140-13 and AR 140-158 for eligibility and further details on promotion.

Something To Look Forward To

In The Pages of Army Reserve Magazine

Coming Up Next Time:

— Mobilization
— How To Deal With RCPAC
— Expanded PEOPLE Department
— HERITAGE Department

You're too young to smoke: this engine exhaust smoke system was developed in less than a year.

A System For Saving Armor...

The 1973 Middle East War showed that a significant number of armored vehicles fell victim to anti-tank guns and missiles. Many of those losses could have been prevented had the armor units been provided with better means of keeping out of sight.

Armed with this battlefield information, the Army began a research and development program to provide a means of preventing or delaying detection of U.S. armored vehicles in combat. From the program grew the development of a Vehicle Engine Exhaust Smoke System (VEESS) that greatly ups the chances of the Army's M60 series tanks surviving the battle.

The VEESS smoke maker is a relatively low cost design, because it uses the tank's own engine exhaust and fuel pump to generate the cloud. Onboard diesel fuel is injected into the exhaust system, where it is vaporized and expelled. On hitting the air, the vapor cools and condenses to form a dense white smoke cloud. The exhaust smoke complements the rapid smoke produced by the Army's old faithful M239 smoke grenade launcher.

The system can be operated for long periods, or in short bursts, just as long as the fuel lasts. The VEESS device is simple and uses standard parts, and was developed in less than a year. In charge was the Army Material Development and Readiness Command's Project Manager for Smoke/Obscurants. The work was performed at the Army's Chemical Systems Laboratory at Aberdeen Proving Ground, Md.

M60A1 tanks in Europe will be fitted with the VEESS kit first, followed by all M60A1 and M60A3 tanks in current production. Efforts are underway to provide kits for the M60, M60A2 and M48A5 tanks, the M88A1 Medium Recovery Vehicle, and M72 Combat Engineer Vehicle, and the Army Armored Vehicle Launch Bridge.

Application to other combat vehicles is under study.

...And A New Way To Remove It

A highly survivable and highly mobile new anti-tank weapon rolled off the production line and into the Army inventory last spring.

It is the M901 Improved TOW (ITV), designed to fill an urgent need to give maneuver battalions more anti-tank missile firepower punch. The vehicle is expected to add a big boost to the Army's ability to defend against combined armor and artillery attack.

Use of items already in the Army inventory helped cut ITV development time. While a weapons system often takes 10 years to develop and field, ITV will have gone from drawing board to deployment in under four years.

The system consists, basically, of a twin TOW missile launching platform mounted on a M113A1 armored personnel carrier.

Present plans call for the production of 2,500 ITVs, many of which will head for Europe.

The vehicle was developed following requests from field soldiers for an anti-tank missile system that could be fired from a fully covered position. From the ITV, missiles can be launched with the vehicle in full defilade, hidden behind a mound of earth or wall. Only the missile launcher needs to be raised above the cover to fire the TOW missile.

The missile platform has two launch tubes, giving the ITV a faster firing rate than other ground-based anti-tank weapons. After cranking off a missile, the crew can make a second engagement in less than five seconds after impact of the first round. TOW missile range is greater than most effective tank fire. Thermal-image sighting allows the missiles to be fired day or night with a high degree of accuracy.

Other NATO nations are interested in the ITV and inquiries are coming in from other alliance countries.

Development and production of the ITV are results of a joint effort of the U.S. Army Tank-Automotive Research and Development Command of Warren, Mich., and Emerson Electric Company.

Twin launch tubes flank the M901's sighting system, which includes day and night target tracking sights and an infrared missile tracker.

Look Ma, Twin Rotors

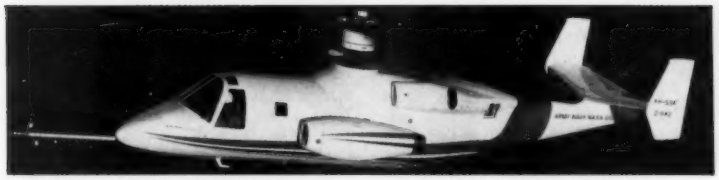
A research helicopter with two rotors — both on top — reached a speed of 234 miles per hour in level flight last April, according to Sikorsky Aircraft, manufacturer of the odd chopper. The experimental "compound helicopter," funded in part by the Army, operates by an Advancing Blade Concept (ABC) that replaces wings and the customary tail rotor with two counter-rotating rigid rotor blades.

Mounted one above the other on a common shaft, the twin rotors eliminate the need for a conventional tail motor as well as the usual penalty of blade stall at high speeds. The latest flight represents one step in a test program with an eventual goal of speeds up to 345 miles per hour.

The ABC system combines the flight properties of helicopters with the high speed flight efficiency of fixed wing aircraft, according to Gerald Tobias, president of Sikorsky Aircraft. The ABC also maneuvers better and makes less noise than conventional helicopters, he said.

The high speed tests are being conducted with two outboard-mounted Pratt & Whitney turbojet engines for auxiliary thrust in addition to a Twin Pac turboshaft engine which powered the aircraft in the earlier phases of the test program.

The ABC could become an efficient vehicle for satisfying future Navy/Marine Corps Vertical Short Take-Off and Lift requirements, according to Tobias. Sikorsky states that the chopper also has potential applications with the Army and Air Force and in high speed, short haul commercial transportation.



Sikorsky's twin-rotored test chopper flies toward eventual speed goal of 345 miles per hour.

The Deadliest Submarine

The Trident nuclear submarine USS *Ohio*, the largest, most lethal and costliest submarine in the world, was launched in April.

During the *Ohio's* christening ceremony in Groton, Conn., First Lady Rosalynn Carter welded her initials into the keel of the USS *Georgia*, the fourth Trident submarine under construction there. She quoted the President as stating that "if there ever has been any single weapon system that has ensured our nation's integrity and security, it has been the nuclear submarine with a strategic weapon capability."

Navy leaders championing the Trident have stressed that its quietness, greater firepower and longer range will keep the United States seabase deterrent well ahead of Soviet efforts to neutralize it. With Trident, according to one Navy estimate, the United States would have 10 times as much ocean from which to fire on Soviet targets than that within the range of the present fleet of missile subs. The Trident I missile that will go in 12 Poseiden submarines and the new Trident submarines can carry a load of warheads 4,000 miles, about twice as far as the Poseiden missiles.

But the first Trident is still a long way from sea duty. Electric Boat is not expected to deliver it to the Navy until November 1980, three years late. And its $1.5 billion price tag is almost double that of the original $800 million estimate — not counting the 24 missiles, which cost approximately $10 million each.

Despite the delays and cost overruns on the huge Trident — the submarine is longer than the Washington Monument is high, and weighs 18,700 tons — there is no other approved alternative to the aging fleet of Poseiden and Polaris submarines. The Navy plans to keep building Tridents at a rate of 1½ a year.

USS Ohio, Navy's first nuclear-powered Trident submarine waiting for the champagne in Groton, Conn.

Fasten seat belts: Black Hawk doesn't come with Dramamine.

Black Hawk: Barnstorming Redefined

Combat may be less confusing after the introduction next year of the Army UH-60A helicopter, according to research and development experts.

New chopper technology enables the Black Hawk to fly an entire combat-ready squad through sheets of ice or a hail of shells — and survive without damage, landings which no other helicopter in production could withstand.

In flight tests conducted in Connecticut last spring, the tactical transport helicopter recorded vertical drop rates of up to 11.5 feet per second at 63 knots and a weight of nearly 8.5 tons — without losing a rivet.

Nap-of-the earth maneuverability permits the Black Hawk to pull off advanced aerobatics with uncanny aplomb. And it's equipped with a deicing kit that enabled the bird to sustain safe flight in icing conditions simulated in Minneapolis, Minn. Testing in natural icing conditions will be conducted later this year, leading to full qualification of the system.

The Army UH-60A, designed and produced by Sikorsky Aircraft, was declared the winner of a seven-month fly-off evaluation against a similar Boeing model three years ago.

CONSUMERWATCH

Do-It-Yourself Sun Stuff

Passive Solar Systems: No Big Problem

by Dean Honeycutt

Many Americans complain about the inertia of their technology base. "Solar systems cost too much, are too complicated, and have no track record," they say.

Many homeowners would welcome a solar alternative to their alarming fuel bills — if only industry would market a cheap, reliable, maintenance-free solar system that is as simple to install as a welcome mat.

You can still adopt solar technology without turning your basement into a jungle of heat exchangers, backflow preventers and thermosyphoning tanks. By employing what scientists call low, or passive technology, you can forget about the pumps and other mechanical heat transfer contraptions. Passive solar energy systems use the structure of the house itself to collect and store heat.

There is nothing unnatural or mechanical about them. There is little to maintain or replace in passive solar systems. And they're cheaper than conventional ones because they exploit the sun's free, renewable energy.

Straightforward approaches to solar technology include solar-heated airlock entries, similar to familiar department store entrances, and insulated, operable window shutters, similiar to the useless ornaments tacked onto today's homes. There are even solar venetian blinds, painted flat black on one side to absorb heat, bright white on the other to reflect it.

Unfortunately, the most efficient passive solar systems are the most expensive ones. And the most expensive ones are most easily incorporated in homes while they are still in the design stage. It would be impractical, for instance, to try to rotate an old house to catch the sun's rays. Nevertheless, existing buildings are frequently adaptable to passive designs.

Off The Wall

We normally think of walls as permanent. In some cases, walls themselves may be moved to save energy: walls can slide, horizontally or vertically, fully opening up a facade when desired; walls can slide over glass areas to reduce heat loss and gain; and walls can revolve in order to expose an appropriate surface material to the sun or to the inside of a house.

In most passive systems the sun's heat is collected and stored by a wall, usually concrete or water in containers. Temperature fluctuations, which burn up BTUs, can be reduced by placing these walls of heavy material behind windows, greenhouses or atriums with sunny exposures. Sunlight heats the space between the glass and the vented wall, and warmth reaches living space by radiation and natural air circulation. Moveable wall panels, flaps or shutters are used to reduce heat loss through the glass wall at night.

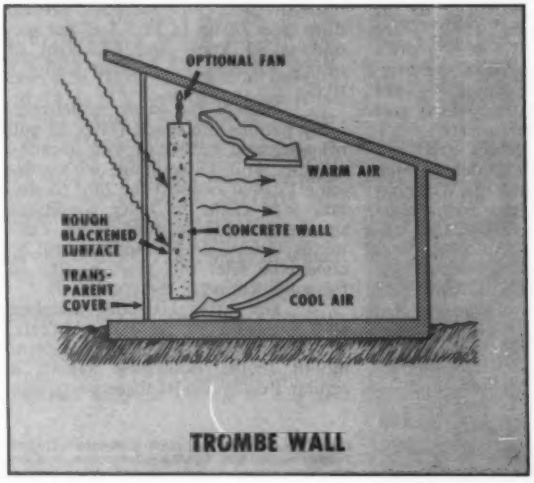
The Trombe wall, for instance, conducts heat through a 12-inch concrete wall painted black on the outside and covered by a single sheet of glass. Other solar walls use bricks or racks of 55-gallon drums of water. All of them require some form of moveable insulation to control heat flow on the inside, or the outside, or both. And most of them also require backup systems.

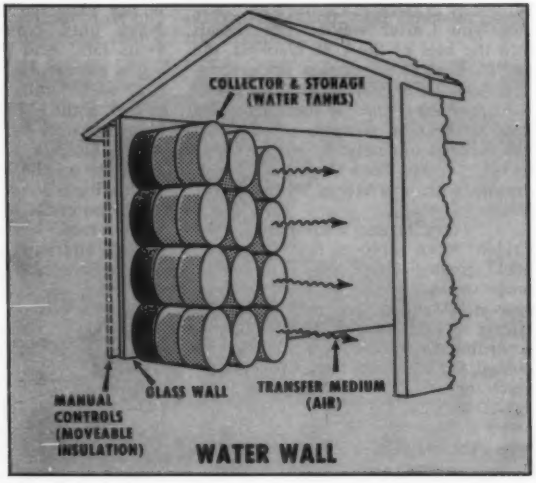
On The Roof

Materials normally used in solar walls can be placed on a roof instead, completely eliminating fuel bills in favorable Southwest climates, considerably lessening them in others. Most solar roofs consist of huge ceiling waterbeds, called solar ponds, and moveable insulation that can be adjusted to keep the water hot or cool, depending, of course, on the season.

One firm has developed a modular roof system called a "skylid," which allows penetration of light and heat when desired, its louvers automatically closing when conditions suggest it. Canisters of freon gas operate the skylight.

Generally, passive designs are simple to understand, to build and to operate. Interest in them is rapidly increasing as conventional energy systems consume non-renewable resources at faster rates and higher prices. Passive solar technology represents an off-the-wall alternative to Americans' alarming fuel bills.





12 Months or 12,000 Miles; Whatever Comes First

Car Warranty Hassle? Here's What to Do

Having trouble getting your dealer to honor your car warranty? You say the service department won't replace that little dashboard light? They won't even take a torque wrench to that lurching motor?

Well, go tell it on the mountain. But first you'll have to contend with the molehills. And you'll have to do it in writing.

A dissatisfied owner should first write to the manufacturer's "zone" or "district" office, which can be found in the owner's manual or the phone book, or to the customer relations office at the headquarters address of the car manufacturer. Send copies to the zone or district office and to the dealer or service agency.

Your letter should indicate the automobile purchased, the problems encountered, the dealer or service establishment involved, what you've done to attempt to correct the problem, and the dealer's reaction to your claims.

Make sure to provide all the details necessary to completely identify your car (or tires) — the date and place of purchase, current mileage, whether or not your car is still under warranty, and in the case of tires, give complete sidewall information.

Above all, your letter should be polite.

If your letter makes no waves, try contacting the organizations below in the order listed:

— Your county or city consumer protection agency, listed in the local government section of the phone book.

— Your local voluntary consumer organization, or, if no such organization exists,

— The Center for Auto Safety, 1223 Dupont Circle Building, Washington, DC 20036, which will forward your complaint to the nearest interested consumer agency.

— Your state consumer protection office, usually a part of the state attorney general's office.

— Your nearest Automotive Consumer Action Panel. AUTOCAPs are complaint-handling groups, organized to settle disputes by state or local automobile dealer associations using single mediators or panels of consumers and industry members. Any dealership can tell you where to find one.

If the problem involves the safety of your car, copies of all correspondence should be sent to the National Highway Safety Administration, Dept. of Transportation, 400 Seventh St., SW, Washington, DC 20590. To report safety-related defects — or to request information about recalls — you can call their toll-free Auto Safety Hotline: (800) 424-9393.

If your calls and letters aren't making any waves yet, you should consider taking legal action. Reservists may want to discuss the matter with a member of an Army legal assistance office before hiring an attorney to file suit. Generally, the larger the claim, the greater an attorney's importance. Otherwise, take your case to the small claims court — and fix your lurching motor there.

Bill Collectors Break The Law, If...

You'll probably never get rid of him til you've paid your dues, but if nothing else works, you can always stall an unscrupulous debt collector with a lawsuit. Debt collectors are breaking the law if they: 1) hassle you publicly or publish your debts; 2) hassle you at work without your employer's consent; 3) hassle you at home after nine p.m.; 4) hassle you for more than you owe; and 5) hassle, threaten and abuse you in any manner not condoned by the Fair Debt Collection Practices Act.

For more information on what those malodorous marauders can get away with, write for a free copy of the act from the Consumer Information Center, Dept. 531G, Pueblo, Colo. 81009.

PX to Swap Unsafe Dryers

The blow-dry generation, once endangered by hazardous hair dryers, has been given a new lease on life. Hand-held hair dryers containing asbestos were removed from sale in PXs last April, pending results of an investigation by the Consumer Product Safety Commission. But the three manufacturers involved in the investigation bounced back with new, asbestos-free blow dryers in May.

The hair dryers suspected of health hazards were the Afromatic-Afro Blow Dryer, the General Electric Pro 6, and the Conair Model 065. Conair units manufactured from December 1977 through June 1978 were removed from sale. Each Conair unit bearing a production code of 1277, 0178, 0278, 0378, 0478, 0578 or 0678 can be identified by a small plate.

Customers may return or exchange these blow dryers, and two other General Electric hair dryers previously sold at PXs, models HD-63/HD-63-SS and PB-1, at the earliest convenient date.

PXs stock other dryers made by Gillette, Windmere, Schick and Clairol, but their manufacturers state that they contain no asbestos. They were not involved in the CPSC investigation.

Army Reserve Sand Dragster

Diggin' In on Page 26

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF
ARMY RESERVE
WASHINGTON, D.C. 20310

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
DEPARTMENT OF THE ARMY
DOD 314

CONTROLLED CIRCULATION RATE

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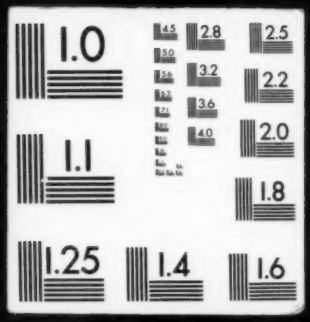
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